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This study (partially supported by an ESEA Title III Grant) of the written composition of 190 above-average children in grades 3-6 was carried out to determine whether those children who were taught selected concepts of invention, arrangement, and style over a period of 8 months would demonstrate significant improvement in composition or sentence structure over those children who followed the typical English program. Improvement in composition was measured by five reader-rating variables--organization, style, working and aspects of phrasing, quality and development of ideas, and a total of the previous four variables. Related language growth was measured by analyzing the students' writing through the use of seven variables, part of which were based on the T-unit. Results indicated that the teaching of selected concepts of invention, arrangement, and style significantly aided growth in written composition of above-average third-grade children, with girls improving more than boys; that the experimental program did not produce significant gains in grades 4, 5, and 6; that the seven language-related variables were of little value in measuring growth in written composition; and that boys and girls demonstrated no appreciable difference in sentence-structure ability at any one grade level. (LH)

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TEACHING RHETORICAL CONCEPTS TO ELEMENTARY SCHOOL CHILDREN

RESEARCH REPORT

DIVISION OF INSTRUCTION

Oakland Schools
Campus Drive – Oakland County Service Center
Pontiac, Michigan 48053

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TEACHING RHETORICAL CONCEPTS TO ELEMENTARY CHILDREN

ROBERT L. FICHTENAU

A RESEARCH REPORT
DIVISION OF INSTRUCTION, ENGLISH DEPARTMENT

Published December, 1968 by
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The research reported herein was originally submitted as a dissertation entitled "The Effect of Teaching Rhetorical Concepts of Invention Arrangement, and Style on the Written Composition of Selected Elementary School Children in Grades Three Through Six" to the Graduate School of the Florida State University (November, 1968) and was partially supported by an ESEA Title III Grant.

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CHAPTER I

STATEMENT OF THE PROBLEM

Father Daniel Fogarty's Roots for a New Rhetoric[1] which appeared in 1959 signaled a renewed interest in the field of rhetoric. Since then, numerous articles and several research studies pertaining to the teaching of composition in high schools and colleges have been published.[2] New textbooks emphasizing aspects of prewriting or stressing several of the classical concepts of rhetoric have appeared in both high school and college composition classes.[3]

Absence of research

However, at the elementary school level neither research studies nor new textbooks reflect the renewed interest in teaching particular rhetorical skills. None of the studies of written composition in the elementary schools appearing between 1961 and 1968 in Review of Educational Research, Vol. 34 (April, 1964) and Vol. 37 (April, 1967); in the annual "Summary of Investigations Relating to the English Language Arts in Elementary Education," Elementary English, Vol. 39 (April, 1962), Vol. 40 (February, 1963), Vol. 41 (February, 1964), Vol. 42 (April, 1965), Vol. 43 (March, 1966), Vol. 44 (April, 1967); and in Research in the Teaching of English, Vol. 1 (Spring, 1967) and Vol. 1 (Fall, 1967) is concerned with teaching particular rhetorical skills to elementary school children. Recent studies of composition in the elementary schools tend to have the same concerns as earlier ones. Typically these studies examined the relationship between extensive reading and certain writing skills,[1] or the relationship between intelligence and competence in letter writing.[2] Other studies are aimed at developing objective measures for rating composition,[3] for rating originality,[4] or for measuring the effectiveness of either certain stimuli,[1] or teacher attitude.[2] Even research of the type mentioned is scarce. The April, 1962 "A Summary of Investigations Relating to the English Language Arts in Elementary Education, 1961" (Elementary English), cites only one study directly related to composition.[3] There has been little activity in the intervening years. The April, 1967 "Summary" (Elementary English), cites two studies.[4] The research bibliographies clearly indicate that there is a paucity of research in the area of written composition at the elementary school level.

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[1] (New York: Teachers College, Columbia University Press, 1959).

[2] For a recent listing of studies see Richard Braddock, ed. Research in the Teaching of English, Vol. 1 (Fall, 1967). For an example of the articles see College Composition and Communication, Vol. 18 (February, 1966).

[3] Recent college texts would include Edward P. J. Corbett's Classical Rhetoric for the Modern Student (New York: Oxford University Press, 1965) and James M. McCrimmon's Writing with a Purpose (4th ed.; Boston: Houghton Mifflin, 1967). High school texts would include the Ginn English Composition and Grammar series, William West general ed. (Boston: Ginn, 1968) and Success in Writing, Books 1, 2, and 3 by Joyce S. Steward and Marion C. McKiney (Menlo Park, California: Addison-Wesley, 1968).

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[1] Nita Wyatt, "A Study of the Relationship of Extensive Reading to Certain Writing Skills of a Selected Group of Sixth Grade Children," University of Kansas Bulletin of Education, Vol. 16 (November, 1961), pp. 13-18.

[2] Katherine Crawford and Neal R. Edmund, "Letter Writing Ability of Fourth Grade Pupils," Peabody Journal of Education, Vol. 29 (July, 1961), pp. 28-30.

[3] David Robert Armstrong, "An Objective Measure of the Quality of Written Composition of Fifth-Grade Pupils" (unpublished Ph. D. dissertation, University of California, Berkeley, 1965).

[4] Ruth Kearney Carlson, "Recent Research in Originality," Elementary English, Vol. 40 (October, 1963), pp. 583-89.

Language arts textbooks

Paralleling the scanty research in composition at the elementary school level is the absence of specific writing programs for children. While there are several textbooks for elementary school teachers which emphasize the importance of helping children learn to write intelligently,[5] the texts themselves seldom go beyond a discussion of the importance of creating an atmosphere conducive to writing and to suggesting countless ways of motivating children. Few suggestions, if any, are ever supplied to the teacher pointing out specific techniques or methods to aid children in developing writing skills. The suggestions are usually presented in a manner similar to the following:

---

[1] Lois M. Nelson, "Inquiry into the Influence of the Assigned Topic on Written Language," California Journal of Educational Research, Vol. 16 (May, 1965), pp. 100-107.

[2] Winnifred F. Taylor and Kenneth C. Hoedt, "The Effect of Praise upon Quality and Quantity of Creative Writing," Journal of Educational Research, Vol. 60 (October, 1966), pp. 80-83.

[3] Crawford and Edmund, pp. 28-30.

[4] Frank B. May and B. Robert Tabachnick, "Three Stimuli for Creative Writing," Elementary School Journal, Vol. 67 (November, 1966), pp. 88-94; and the previously cited study by Taylor and Hoedt.

[5] See for example Mauree Applegate, Easy in English (Evanston, Illinois: Row, Peterson, 1962); Board of Education of the City of New York, Developing Children's Power of Self-Expression Through Writing (New York: Board of Education of the City of New York, 1953); or Alvina Trent Burrows et al., They All Want To Write (New York: Holt, Rinehart and Winston, 1964).

> But of equal importance with a wealth of ideas, and a clearly seen purpose toward which these ideas must be organized, is the stage of maturity of the person concerned. To give significant help, awareness of the child's development of orderliness must be in the foreground. This again is a very complex matter, influenced by perhaps more unknowns than we have yet dreamed of. Differing with every individual, this mental power is a fascinating and a subtle one, growing with the growing individual; yet in no two persons does it show the same earmarks, even if they have been brought up in the same general environment, with apparently the same immediate purposes, and even with the same I.Q.. To a degree, fortunately, a feeling for organization is a part of everyone. Moreover, it appears that the privilege of writing purposefully and sincerely makes a marked contribution to its natural development.[1]

While the author recognized that some teachers may wish to "give significant help," no specific suggestions are given. In fact the author implies that time and purposeful writing will solve organizational problems. In those texts designed for elementary school language arts methods courses the chapters or sections treating written composition are often concerned with such skills as spelling, handwriting, grammatical usage, capitalization and punctuation. Other aspects of written composition are generally only briefly mentioned. When the coverage extends beyond mechanical skills, the texts treat various ways of motivating children to write, ways of developing vocabulary,[1] or stress the usefulness of teaching organization through the formal outline.[2]

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[1] Burrows, They All Want To Write, pp. 75-78.

While students spend between eleven and thirteen years in English programs in elementary and secondary schools, we frequently hear from both business and higher education that a large percentage of high school graduates cannot write acceptable reports or papers. Both universities and large companies frequently consider it necessary to try to teach people to write.

Since comparatively little research in specific elementary school composition programs has been done, the need for the present study seems clear.

Purpose of the study

The primary purpose of this study was to compare and evaluate the growth in written composition of children who were taught selected concepts of invention, arrangement, and style with the growth in written composition of children who follow the typical English program as outlined in the D. C. Heath series English Is Our Language (1961) or in the Laidlaw series Using Good English (1961). An outline of the experimental program along with sample teaching lessons is included in the appendix. The experimental program included the following:

---

[1] Paul S. Anderson, Language Skills in Elementary Education (New York: Macmillan, 1964).

[2] William K. Trauger, Language Arts in Elementary Schools (New York: McGraw-Hill, 1963).

Invention, limited to helping students acquire questioning techniques which will help them discover what they know about a topic and to helping students use elementary reference materials to gain additional information.

Arrangement, limited to presenting techniques for arranging narrative and descriptive passages and to an introduction to the use of coordination and subordination within a paragraph.

Style, limited to teaching students to modify their sentence structure and vocabulary to suit the particular audience and to helping them write more mature sentences as defined by Kellogg Hunt.[1]

The data from the study were analyzed to determine:

1. the effectiveness of the experimental program for promoting growth in written composition
2. the effectiveness of the experimental program for promoting growth in maturity of sentence structure
3. the relationship, if any, between growth in written composition and such variables as sex and grade placement.

Null hypothesis. -- This study was posited upon the null hypothesis: the written composition of those children in the experimental group who are taught concepts of invention, arrangement and style will not improve significantly over the written compositions of those children in the control group who follow an ad libitum program in accordance with what is customarily included at the various grade levels.

---

[1] Kellogg W. Hunt, Grammatical Structures Written at Three Grade Levels ("National Council of Teachers of English Research Report No. 3"; Champaign, Illinois: National Council of Teachers of English, 1965).

Scope and delimitations

This study compared a specific method of teaching written composition to selected children in grades three through six with the customary school programs based on popular language arts textbooks. It included the writing of teaching materials, the collection of pre and post writing samples, and the analysis of the collected samples on the basis of the following variables:

Major variables

1. Rating scores assigned for quality and development of ideas
2. Rating scores assigned for organization
3. Rating scores assigned for style
4. Rating scores assigned for wording and phrasing
5. Total rating scores (sum of 1 through 4)

Secondary variables

1. Number of T-units per 100 words
2. Average number of words per T-unit
3. Number of clauses per 100 words
4. Average number of words per clause
5. Ratio of clauses to T-unit
6. Number of coordinators between main clauses
7. Mean length of punctuated sentences

Procedures

The experimental groups of children, at each of four grade levels (3, 4, 5 and 6) and the four matching control groups were selected on the basis of having scored in the 80th percentile or above on one of the following tests: California Short-Form Test of Mental Maturity, California Achievement. Four teachers selected for the experimental classes were trained, during a six-week practicum, in theories of classical and contemporary rhetoric. Children in the experimental groups received direct instruction in concepts of invention, arrangement, and style. The instructional period for both the experimental and control groups was approximately eight months. Four hundred words of written composition were collected from each child in September, before the experimental program commenced, and four hundred additional words were collected at the close of the project in May. One pre and one post composition were based upon viewing, with the sound turned off, one of the following films in the Coronet Language Arts series: The Ant and the Dove, The Ant and the Grasshopper, or The North Wind and the Sun. The experimental and control group teachers selected the two best compositions for each child from the first four-hundred-word sample and two from the last sample to be judged by the raters. All eight hundred words were segmented into T-units (minimal terminable syntactic units which Hunt describes as "one main clause with all the subordinate clauses attached to it,"[1]) and further analyzed.

Plan of the dissertation

Chapter II presents a review of research related to this study. Chapter III describes the design of the experiment. Chapter IV presents the analysis of the data. Chapter V presents the conclusions and recommendations for further research.

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[1] Hunt, p. 20.

CHAPTER II

A REVIEW OF THE RESEARCH

This study was concerned with improving the written composition of children in grades three, four, five and six through the direct teaching of rhetorical skills. A search through the major bibliographies reporting research in the teaching of English failed to yield any studies directly related to teaching rhetorical concepts to elementary or secondary school students. The 1963 Braddock, Lloyd-Jones, and Schoer study lists as one of the major questions to be answered: "Can formal study of rhetorical theory . . . help writers?"[1] Of the 504 studies listed in the report, those studies which purport to be concerned with particular methods of teaching composition skills to elementary school children usually compare grammatical approaches with nongrammatical approaches. Their principal concern is in helping students achieve "correct" usage.

The hypothesis under investigation is based on the assumption that certain skills and concepts relating to invention, arrangement, and style can be taught to elementary school children. In addition, this study asks whether the length of T-units students produce is a measure of improvement in written composition. However, while there are no studies directly related to this hypothesis, there are a few studies concerned with the teaching of organizational and critical thinking skills. There are also basic studies related to maturation in language patterns of children. The research in this chapter is presented in four sections.

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[1] Richard Braddock, Richard Lloyd-Jones, and Lowell Schoer, Research in Written Composition (Champaign, Illinois: National Council of Teachers of English, 1963) p. 53.

1. Teaching organization of expository writing
2. Teaching critical thinking
3. The language development in children
4. The T-unit as a measure of maturity

Teaching organization of expository writing

Callahan,[1] in teaching organization to sixth-grade students, used the following exercises: classifying, discarding irrelevant ideas, outlining, recognizing well-organized paragraphs, and arranging ideas in sequences. The control group received no instruction in these exercises. At the end of an eight-week instruction period, the experimental group made significant gains over the control group in the ability to organize and in composition-writing ability.

Thibodeau[2] used exercises in grammar in addition to Callahan's organizational exercises to improve the composition-writing ability of sixth-grade students. On the Step Writing Test (r=.91) and on a "Test of Organizational Ability" constructed by Callahan, the experimental group made significant gains over the control group.

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[1] Frederic L. Callahan, "Construction and Evaluation of a Series of Exercises to Develop Organization Ability in Children's Writing" (unpublished Ed. D. dissertation, Boston University School of Education, Boston, 1959). Abstracted in Dissertation Abstracts, Vol. 20, abstract 3660.

[2] Armand E. Thibodeau, "Improving Composition Writing with Grammar and Organization Exercises Utilizing Differentiated Group Patterns" (unpublished Ed. D. dissertation, Boston University School of Education, Boston, 1963). Abstracted in Dissertation Abstracts, Vol. 25, abstract 2389.

Brownrigg[1] and Wallace[2] conducted studies designed to improve the number of ideas in student's writing at sixth- and eight-grade levels respectively. Both studies used "thought-provoking questions" to help students develop a pattern of thinking in relation to a topic or outline. In both studies the ideas in test compositions were counted. Both the experimental group of Wallace and that of Brownrigg made significant gains over the two control groups.

Reedy compared two methods of teaching the organization of expository writing to ninth-grade students.[3] The first method consisted of the direct teaching of organization based on six patterns common to exposition: chronological (steps in a process), chronological (order of events), classification, comparison and contrast, deductive and inductive. The second method consisted of " . . . indirect teaching of communication: knowledge of content, statement of purpose, and consideration of readers (audience)" (p. 3). Two experimental groups of ninth-grade students were matched on the basis of mean I.Q. For a period of three weeks one group (288 students) received direct instruction in organization based on three principles used in the process of communication. The second group received indirect instruction in organization based on the same three principles.

---

[1] Helen R. Brownrigg, "An Evaluation of Exercises in Written Composition Planning" (unpublished Master's Thesis, Boston University School of Education, Boston, 1950) referred to in John E. Reedy, Jr., "A Comparative Study of Two Methods of Teaching the Organization of Expository Writing to Ninth-Grade Pupils" (unpublished Ed. D. dissertation, Boston University School of Education, Boston, 1964) p. 14.

[2] Michael F. Wallace, "An Evaluation of Exercises in Composition Planning" (unpublished Master's Thesis, Boston University School of Education, Boston, 1950) referred to in Reedy, p. 14.

[3] John Edward Reedy, Jr., "A Comparative Study of Two Methods of Teaching the Organization of Expository Writing to Ninth-Grade Pupils" (unpublished Ed. D. dissertation, Boston University School of Education, Boston, 1964).

Reedy concluded that the direct method was superior to the indirect method; gains were significant at the .01 level.

Critical thinking skills

Maw[1] taught the following critical thinking skills to experimental groups of students in grades four, five, and six: selection of relevant data, judging the reliability of the data, making generalizations and inferences, recognizing situations in which evidence is insufficient for a conclusion, determining cause and effect, and evaluating arguments. Significant gains over the controls were made by the experimentals on the author's "Test of Critical Thinking" but not on the Davis-Eells Games.

Anderson, Marcham, and Dunn[2] compared "doing" and "telling" methods of teaching the following critical thinking skills to students in grades seven and ten: identifying specific facts; selecting relevant facts; organizing facts in terms of meaningful subtopics; arranging subtopics in logical order; making inferences from specific facts and trends; distinguishing fact from opinion; and recognizing situations in which insufficient evidence makes it difficult or impossible to draw clear-cut conclusions. The instructional materials were the same for both groups; the control group received no instruction. The skills were taught during five three-day periods evenly spaced between October 1 and April 10. There was no significant difference between the two experimental groups nor between the experimental and control groups as measured by an objective test constructed by the experimenters. No attempt was made to see whether there was a transfer of the skills to writing.

---

[1] Ethel W. Maw, "An Experiment in Teaching Critical Thinking in Intermediate Grades " (unpublished Ph. D. dissertation, University of Pennsylvania, 1959). Abstracted in Dissertation Abstracts, Vol. 20, abstract 2179.

[2] Howard C. Anderson, Frederick Marcham, and Seymour B. Dunn, "An Experiment in Teaching Certain Skills of Critical Thinking," Journal of Educational Research, Vol. 38 (December, 1944) pp. 241-251.

Language development in children

Since the extensive study of language development has been reviewed in Smith,[1] McCarthy,[2] Carroll,[3] and Ervin and Miller,[4] no attempt will be made here to treat all available research data. Only the information the writer considers pertinent to this study is presented.

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[1] Dora V. Smith, "Growth in Language Power as Related to Child Development," Teaching Languages in the Elementary School, Forty-third Yearbook of the National Society for the Study of Education, Part II, ed. Nelson B. Henry (Chicago: National Society for the Study of Education, 1944).

[2] Dorothea McCarthy, "Language Development in Children," Manual of Child Psychology, ed. R. Carmichael (New York: John Wiley and Sons, Inc., 1954).

[3] John B. Carroll, "Language Development in Children," in Encyclopedia of Educational Research, ed. Chester W. Harres (New York: Macmillan, 1960) pp. 744-752.

[4] Susan M. Ervin and W. R. Miller, "Language Development," Child Psychology, Sixty-second Yearbook of the National Society for the Study of Education, Part I, ed. Harold W. Stevenson, (Chicago: University of Chicago Press, 1953) pp. 108-143.

Early researchers in the area of language development as outlined in McCarthy have studied the successive stages in the development of speech. The studies show a progressive mastery of verbal skills reflected in vocabulary growth and increasing complexity of sentence structure. Both the summary by Smith and that by McCarthy conclude that mean sentence length is the "most reliable, easily determined, objective, quantitative, and easily understood measure of linguistic maturity."[1]

Templin[2] studied the language of 500 children three to eight years of age representing upper and lower socio-economic classes of both sexes. She found that the mean length of the remarks of eight-year-olds was over twice that of three-year-olds. Templin's data implies that the length of utterance was still increasing at the oldest age level examined. Eight-year-old children are still increasing the length and complexity of their grammatical constructions.

Most of the studies made before 1960 had difficulty in defining the "sentence." In spite of their attempts to define what they regarded as a sentence, as a term it remained subjective. Not until such studies as those undertaken by Walter Loban[1] and Ruth Strickland[2] does "length of utterance" become rigidly defined in objective terms.

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[1] McCarthy, pp. 550-51.

[2] Mildred C. Templin, Certain Language Skills in Children: Their Development and Interrelationships (Minneapolis: The University of Minnesota Press, 1957).

Both Loban and Strickland define what had previously been called either "sentence" or "length of utterance" in terms of communication unit. A communication unit is "a group of words which cannot be further divided without the loss of their essential meaning."[3]

Loban summarizes his findings concerning the language of children in forty-eight brief paragraphs (pp. 229-238). Those generalizations that are closely related to the present study are further condensed in the following statements:

1. From one school year to the next, the number of words spoken by the subjects increases along with the number of communication units. After grade six the rate of increase slows considerably as a result of the subject's using more complexity (reflected by a higher average of words per communication unit).

2. In grades four through nine the high group has a lower proportion of mazes and words in mazes than does the low group.

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[1] Walter D. Loban, Language Ability: Grades Seven, Eight, and Nine, Cooperative Research Report No. 1131 (Berkeley: University of California Press, 1964).

[2] Ruth G. Strickland, "The Language of Elementary School Children: Its Relationship to the Language of Reading Textbooks and the Quality of Reading of Selected Children," Bulletin of the School of Education, Indiana University, Vol. 38 (July, 1962).

[3] Loban, p. 22.

3. The high ability group uses far fewer incomplete sentence patterns than the low group. The former also employs sentence patterns with the linking verb more frequently than the low group. Patterns beginning with the expletive are seldom employed by the low group; the use of the expletive first increases for the high ability group and then decreases. Only the most able subjects use the direct object pattern in the early years; in later years the pattern shows an overall increase by both groups although it is still infrequently used. The indirect object is seldom used by either group. Overall, the same patterns tend to be used by both groups. The median differences in structural patterns used by the two groups was insignificant.

4. Differences between the high ability and the low group are more noticeable within the patterns. "Not pattern but what is done to achieve flexibility within the pattern proves to be a measure of effectiveness and control of language . . . " (p. 232). The high group consistently employed a larger repertoire of clauses and movables within movables. The high group used noun clauses, infinitives and verbals in the subject position as well as nouns and pronouns on which the low group consistently relied. While boys in the high group tend to excel girls in the same group, girls in the low group are much less limited in their repertoire of syntax than are the boys in the low group.

5. Subjects most proficient with language most frequently use suppositional, hypothetical and conditional expressions that communicate tentativeness.

6. The subjects in the high group in oral language ability are also high in writing ability. At the junior high school level a large majority of the high ability group are writing at a High Average or Superior level while a great majority of the low group are writing at Low Average or Marginal level.

7. As in oral language, most of the sentence patterns used in writing do not differentiate between those ranked high in language ability and those ranked low. However, a subject ranked high is more likely to use an uncommon pattern than one ranked low.

8. The total group employs adverbial and nominal clauses more frequently than adjectival clauses. The adverbial clause discriminates between the high and the low groups. While all groups show an increasing use of subordination with an increase in chronological age, the high group uses subordination to a greater extent than does either randomly selected groups or the low group.

9. In written language the high group uses consistently more subordination for all years except grade nine. In grade nine the high group is surpassed by the total group. "This development is being followed in order to determine if it is a new trend or merely a quirk in the data" (p. 234).

Strickland, generally following the same procedure employed by Loban, studied the oral language of 575 children in grades one through six enrolled in the schools of the Metropolitan School District of Bloomington, Indiana. Twenty-five phonological units from each of the children were analyzed for syntactic structure, frequency of certain basic patterns, amount and kinds of subordination, sentence length, and "flow of language."[1] Her findings relating to the oral language of children are summarized in eighteen sentences. Those findings which are of interest to this present study are condensed here:

1. A few basic patterns appear most frequently at all grade levels in the talk of children although all the basic patterns are used to some extent. The number of patterns used, including variations, ranged from 658 at grade 1 to 1,041 at grade 6. The most frequently used patterns are composed of immovable elements.

2. While children at every grade level used adverbial expressions of the various types, as the chronological age increased, the incidence of movables increased. Older children also demonstrated greater flexibility in positioning time movables. Cause and condition movables (if, because, etc.) were used three times as often by children in grade five compared with grade one children.

3. In the use of subordination Strickland found "no outstanding difference in the use of these elements from one grade level to another . . . " (p. 44).

While there are several other studies related to those of Loban and Strickland, of more interest to the present study are the studies of Kellogg W. Hunt[2] and Roy C. O'Donnell, William J. Griffin, and Raymond C. Norris.[3]

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[1] Strickland, p. 6.

[2] Kellogg W. Hunt, Grammatical Structures Written at Three Grade Levels (National Council of Teachers of English Research Report No. 3; Champaign: National Council of Teachers of English, 1965).

[3] Roy C. O'Donnell, William J. Griffin, and Raymond C. Norris, Syntax of Kindergarten and Elementary School Children: A Transformational Analysis (National Council of Teachers of English Research Report No. 8; Champaign: National Council of Teachers of English, 1967).

The T-unit as a measure of maturity

Both the study of Kellogg W. Hunt and that by Roy C. O'Donnell, William J. Griffin and Raymond C. Norris apply transformational analysis to the language samples in order to discuss patterns of growth. Hunt collected writing samples of a thousand words each from fifty-four students, eighteen in each of three grades (grades 4, 8, 12). The samples were subjected to several conventional analyses, but Hunt was basically concerned with the sentence-combining transformations found in the writing at each level.

One of the major outcomes of the study was the development of a technique for segmenting writing into T-units, minimal terminable syntactic units. A T-unit is defined as "one main clause with all the subordinate clauses attached to it" (p. 20). With the T-unit Hunt discovered an index which appears to be a valid measure of maturity. The T-unit significantly increases steadily in mean length from grade level to grade level. Using the statistical contingency coefficient technique and an analysis of variance, Hunt compared average length of clauses, ratio of clauses per T-unit, average length of T-units, ratio of T-units per sentence, and average length of punctuated sentences. The results indicated that the T-unit length was the best index of grade level, ratio of clauses to T-units second, and average length of punctuated sentences the poorest.

After noting that older children tended to use more subordinate clauses per T-unit, Hunt subjected the clauses to further study. He found that the use of adjective clauses was the "most important developmental trend" (p. 89). The use increased from .045 per T-unit at grade four to .16 per T-unit at grade twelve. The second trend he noted was in the increased use of noun clauses. They increased from .14 at grade four to .29 per T-unit at grade twelve. While fourth graders produce adjective, noun and adverb clauses, the major difference between them and the older students is that they do not produce as many.

Next, he found that the number of coordinations between T-units decreases significantly from grade to grade. As the students become older they find other ways of consolidating clauses. They employ a large number of sentence-combining transformations, especially in the producting of nominals. The major growth in T-unit length occurs from an expansion of the nominals in every position. Clauses tend to be lengthened by increased use of "non-clause modifiers of nouns and the nominalization of clauses. This factor and the increase in adjective clauses account in the main for the increased length of T-units" (p. 143).

Hunt's study illustrates well the process of increasing maturity on the syntactic level. Young students tend to produce short separate units while older ones through a process of combining and deletion consolidate more "grammatical structures into a single grammatically interrelated unit" (p. 143). As he matures those elements he consolidates become more broad, and at the same time he increases his ability to delete needless words. The more mature student is able to pack more and more thought into a single organization. While a breakdown of the various transformations involved provides more precise information regarding the maturation process, the single easily performed calculation of mean lengths of T-units gives a close approximation of the more complicated analysis of sentence-combining transformations. The mean lengths of T-units reflect the varying use of the sentence-combining transformations.

The last study, that undertaken by O'Donnell, Griffin, and Norris, builds upon the work of Hunt by replicating some of his study with different subjects and by extending the analysis to younger children. The study also considers the oral language of the subjects. The three men investigated the oral language of 180 children, 30 from each of the following grade levels: kindergarten, first, second, third, fifth, and seventh grades. They further studied the written language of the same third, fifth, and seventh grade children. It is their findings related to the written language that most concern us here.

The language samples consist of the children's written responses to two films, The Ant and the Dove and The North Wind and the Sun. The sample of each child was analyzed for garbles (called mazes by Loban and Strickland), then segmented into T-units. The T-units were then analyzed for "number, kinds, and functions of sentence-combining transformations" (p. 35).

Perhaps of most concern for the present study was their support of the conclusion by Hunt that mean T-unit length is a significant measure of maturity. They found, as did Hunt, that there was a consistent lengthening of the T-unit from grade to grade.

Other findings are succinctly summarized under three main heads (pp. 77-85). Those of direct interest to the present study are further condensed:

1. Garbles appeared so infrequent in the writing, especially when compared with number of words written per garble, that they are insignificant as a measure of maturity.

2. T-unit lengths increased significantly from grade to grade. The number of short T-units (less than nine words) decreased at each level. The decrease was especially significant at grade 5. With the increase in length of T-units, the number of sentence-combining transformations increased with every advance in grade. In writing, the increments in grades five and seven were especially significant. Fifth graders tended to use coordination more often than third graders, while seventh graders reduced their rate of use below that of third graders. A significant increase in the use of sentence-combining transformations which account for nominals, adverbials, and coordinations with T-units was found from grade three through grade seven.

3. Little difference was found in the occurrence of various structural patterns of main clauses from grade to grade. "All clausal patterns identified were used by at least some kindergarten children, and this can be said of no other group except seventh-graders" (p. 80). Nearly 85 percent of the time, third, fifth, and seventh graders relied on either the subject-verb or the subject-verb-object pattern. The former increased significantly from grade three to grade seven, and the latter in grade seven. The subject-verb-predicate pattern increased significantly from grade five to grade seven.

4. In writing, girls produced longer T-units in grades three and five but in grade seven the boys wrote longer ones. None of the differences was significant.

5. With sentence-combining transformations significant increases from grade level to grade level "were found in the use of adverbial infinitives, sentence adverbials, coordinations within T-units and

modifications of nouns by adjectives, participles and prepositional phrases" (p. 90).

From the studies by Hunt and by O'Donnell, Griffin, and Norris, there is little doubt but what the T-unit is a sensitive indicator of development in syntactic control. The ease of application and its validity as demonstrated in the two studies make it an invaluable research tool in indicating the growth in language maturity.

It appears that children gradually gain more and more control over their language as they move from one grade to the next. While the gain is not steady in that there are periods of relatively rapid growth and others of a slower pace, it is continual. Growth tends to depend upon control of grammatical rules. As particular rules come under a firmer control there is an increased use of the structure which results from applications of the rules. In particular, in the studies of Hunt, and of O'Donnell, Griffin, and Norris, there is evidence of an over generalization of the rules before the rules are applied with proper discrimination. There is evidence to support the hypothesis that the increasing complexity of the language used is in part dependent upon an improved ability to move from application of the most general rules to increasingly differentiating rules, and finally to completely ordered sets of rules which allow for particular structures.

From those studies related to teaching organizational skills and those related to teaching critical thinking skills, one may conclude that it is quite possible and also profitable to teach elementary students particular skills involved in writing. From the language development studies one may conclude that the T-unit provides a valid index for measuring the growth of development in syntactic control.

CHAPTER III

DESIGN OF THE STUDY

This study proposed to obtain information and data dealing with the effectiveness of teaching basic rhetorical concepts to selected elementary school children in grades three through six. The concern of the study was a comparison of control and experimental groups to determine if there is a significant relationship between the study of basic rhetorical concepts of invention, arrangement, and style and improvement in written composition. This chapter describes the experimental and control groups, the teaching schedule, the teaching materials, the procedure for collecting the data, and the treatment of the data.

Experimental and control groups

Four groups of ten children at each of three elementary grades (3, 4, and 5) and three groups of ten children at the sixth grade were selected for the experimental population. One group at each of four grades (3, 4, 5, and 6) was selected for the control population. Table 1 shows the breakdown by school district.

The same criterion for selection was used for both the experimental and control groups: the 80th percentile or above on either the California Short-Form Test of Mental Maturity or the California

Achievement Test (r=.79[1]). Of the twenty-eight school districts in Oakland County, no local district was willing to participate in the study unless the students involved were in the 80th percentile or above. The districts wished to refer to the experimental program as an "enrichment program for the more able children."

TABLE 1

BREAKDOWN OF CLASSES BY DISTRICT

District	Grades Taught in Experiment	Control Group
Clarenceville	3, 4, 5, 6	Grade 3
Avondale	3, 4, 5	Grade 4
Farmington[1]	3, 4, 5, 6	Grade 5
Farmington[2]	3, 4, 5, 6	Grade 6

Table 2 describes the sample experimental population and Table 3, the control.

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[1] California Test Bureau, Technical Report on the California Test of Mental Maturity Series 1963 Revision (Monterey, California: California Test Bureau, 1965), p. 13.

TABLE 2

EXPERIMENTAL POPULATION

Grade	N Boys	Percentile Range	N Girls	Percentile Range	Selection Test
3	20	21	20	19	Calif. Short Form
4	20	19	20	17	Calif. Short Form
5	20	3	20	5	Calif. Achievement
6	15	6	15	15	Calif. Achievement

TABLE 3

CONTROL POPULATION

Grade	N Boys	Percentile Range	N Girls	Percentile Range	Selection Test
3	5	18	5	15	Calif. Short Form
4	5	18	5	19	Calif. Short Form
5	5	5	5	4	Calif. Achievement
6	5	9	5	6	Calif. Achievement

A total of twenty boys and twenty girls was included at each of grades three, four, and five; fifteen boys and fifteen girls were included in grade six. The smaller number of children at grade six was due to the Avondale District's middle school plan. Five boys and five girls were included in each of the four control groups. Since the selection criterion was the 80th percentile or above, the 150 experimental children and the 40 control children were above average in intelligence. While no measure of socio-economic status was used, the children tend to come from neighborhoods in which the homes sell for between thirty and forty thousand dollars. They might generally be described as coming from upper middle-class families.

Teaching schedule

The experimental groups met with the writing teacher twice weekly for approximately sixty minutes per day throughout the school year. There were, of course, the normal interruptions due to school assemblies, field trips and other activities. During the first few weeks of the school year, the experimental teachers used the writing period to collect the initial four-hundred-word samples. Actual teaching lessons were not begun until the samples had been collected.

Teaching material

While the materials used for presenting the concepts of invention, arrangement and style varied from one grade level to another, the concepts to be taught were similar. The materials consisted of approximately thirty teaching lessons which were used between the last of September and the last of May. Each lesson usually covered the two weekly writing periods. However, there was no rigid schedule. If, for example, after presenting the initial lesson introducing the concept of writing for a specific audience the children failed to grasp the concept, the teacher was free to spend further time on the concept before moving on to the next lesson. Appendix A contains a sample of the lessons which were used.

The initial lessons were developed by the four teachers and this writer during a six-week practicum held in the spring of 1967 before the experimental program was under way. During the practicum, the four teachers studied theories of classical and contemporary rhetoric in addition to discussing current research studies in the area of the structure of children's writing. The major textbooks and research studies included Aristotle's *Rhetoric*,[1] *Classical Rhetoric for the Modern Student*,[2] *The Province of Rhetoric*,[3] *The Teaching of Writing in Our Schools*,[4] *Freeing Children to Write*,[5] *The Sentence and the Paragraph*,[6] *New Directions in Elementary English*,[7] *Research in the Teaching of English*,[8] *Children's Writing: Research in Composition and Related*

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[1] Aristotle, *The Rhetoric of Aristotle*, trans. Lane Cooper (New York: Appleton-Century-Crofts, 1932).

[2] Edward P. J. Corbett, *Classical Rhetoric for the Modern Student* (New York: Oxford University Press, 1965).

[3] Joseph Schwartz and John A. Rycenga, *The Province of Rhetoric* (New York: Ronald Press Co., 1965).

[4] Richard Corbin, *The Teaching of Writing in our Schools* (New York: Macmillan Co., 1966).

[5] Mauree Applegate, *Freeing Children To Write* (Evanston, Illinois: Harper and Row, 1963).

[6] "The Sentence and the Paragraph," A Collection of Articles Reprinted from *College Composition and Communication* and *College English* (Champaign, Illinois: National Council of Teachers of English, n.d.).

[7] Alexander Frazier (ed.), *New Directions in Elementary English* (Champaign, Illinois: National Council of Teachers of English, 1967).

[8] Braddock, *Research in the Teaching of English*.

Skills,[1] Grammatical Structures Written at Three Grade Levels,[2] and Syntax of Kindergarten and Elementary School Children.[3]

The teachers met in the practicum from 9:00 A.M. to 4:00 P.M. five days a week for six weeks. The weekly schedule was as follows:

Week I Lectures on classical rhetorical theory, reading in Aristotle's Rhetoric, The Province of Rhetoric, and Classical Rhetoric

Week II Lectures on contemporary rhetorical theory, continued reading in The Province of Rhetoric and selected National Council of Teachers of English pamphlets

Week III Lectures on the work of Christensen and Pike, reading The Teaching of Writing, and Freeing Children to Write

Week IV Lectures on language development, discussion of New Directions, and reading the research pamphlets

Weeks V & VI Reading of selected materials from curriculum centers and developing the initial teaching lessons

Procedure for collecting the data

During September four hundred words of writing were collected from each of the 150 children in the experimental group and from each of the forty in the control group. Part of each four-hundred-word sample was based upon a written reaction to one of three films in the Coronet Language Arts series: The Ant and the Dove, The Ant and the Grasshopper or The North Wind and the Sun. The films were shown with the sound turned off so that the language of the films would not influence that of the children. At each grade level, both the experimental and control groups saw the same film. When the films had been shown, the children were asked "to write anything you want to write about the film. You may re-tell the story if you want to or write about what you think the film tried to show."

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[1] National Conference on Research in English, Children's Writing: Research in Composition and Related Skills (Champaign, Illinois: National Council of Teachers of English, 1960-1961).

[2] Hunt.

[3] O'Donnell, Griffin, and Norris.

Included in the four-hundred-word sample was one other assignment common to both the experimental and control groups. Each child was asked to write a "how to do it" composition. For this assignment all of the teachers were provided with a set of instructions and asked to follow them without deviation. The instructions constitute Appendix B.

In the third week of May, 1968, the teachers began to collect the second four-hundred-word sample from each child. The procedure was similar to the earlier one. The children saw one of the three films listed previously and were asked to write about it. The directions were the same as those given in September. Another "how to do it" composition was written with the earlier instructions again being used.

The remainder of the pre and post four-hundred-word samples consisted of narrative and expository writing covering a wide variety of topics. However, all samples were written in class, under the supervision of the teacher.

Treatment of the data

The two four-hundred-word samples (pre and post) of each child were segmented into T-units and analyzed by the experimenter and the four experimental teachers. The samples were analyzed for the following variables:

1. Number of T-units per 100 words
2. Mean number of words per T-unit
3. Number of clauses per 100 words
4. Mean number of words per clause
5. Ratio of clauses per T-unit
6. Number of coordinators between main clauses per 100 words
7. Mean length of punctuated sentences.

These variables will be described in Chapter IV at the time of their mention.

The T-unit "one main clause with all the subordinate clauses attached to it"[1] was selected to measure one aspect of style, and maturity of sentence structure. Another reason for the use of the T-unit was to determine whether it, as a measure, would reflect any differences between the experimental and control groups. Both Hunt and O'Donnell, Griffin and Norris have shown that "the mean length of T-units has special claim to consideration as a simple, objective, valid indication of development in syntactic control."[2] Hunt found the T-unit to be the best indicator of a student's grade level.[3]

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[1] Hunt, p. 20.

[2] O'Donnell, Griffin, and Norris, pp. 98-99.

[3] Hunt, p. 23.

Four compositions, two written in September, 1967, and two written in May, 1968, were selected by the teachers. Each composition was then read by two trained readers using a rating form based on the one developed by Paul B. Diederich and Educational Testing Service.[1] Diederich reports that in a study which asked sixty "distinguished" readers to rate three hundred papers, five major clusters emerged: (1) ideas expressed, (2) mechanics, (3) organization, (4) wording and phrasing, and (5) style. From the cluster, Diederich developed a rating scale.[2]

Use of the rating scale in several school districts to rate compositions written by students in grades four through twelve suggests that trained readers can be expected to achieve an inter-reader reliability of 0.8: "all that is necessary to get it up to a reliability of 0.8 is four samples of each student's work, each rated independently by two readers, with a third rating for papers on which there is a substantial disagreement."[3]

The ETS rating scale was modified for the present study to provide separate scores related to invention, arrangement and style. In addition, the scale provided a total score for each composition. Each of the 760 compositions (two pre and two post compositions from each of the 150 experimental children and two pre and two post from each of the 40 control children) was read by two readers who were trained to use the rating scale shown in Table 4.

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[1] Paul B. Diederich, "Problems and Possibilities of Research in the Teaching of English," Princeton, New Jersey: Educational Testing Service, n.d. (Mimeographed).

[2] Paul B. Diederich, "How To Measure Growth in Writing Ability," English Journal, Vol. 55 (April, 1966), pp. 442-443.

[3] Paul B. Diederich, "Cooperative Preparation and Rating of Essay Tests," English Journal, Vol. 56 (April, 1967), p. 582.

TABLE 4

RATING SCALE

	Low		Middle		High
A. Quality and development of ideas	2	4	6	8	10
B. Organization, relevance, movement	2	4	6	8	10
C. Style, flavor, individuality	1	2	3	4	5
D. Wording and phrasing	1	2	3	4	5
Sum of Ratings					

The items on the scale relate to the concepts presented in the teaching materials. Item A relates to invention, B to arrangement and C and D to style. Ideas and organization were given double weight to compensate for the two items related to style. This scale was used to provide a measure of the extent to which children demonstrate their ability to use the concepts of invention, arrangement and style which were taught. It also provided a measure of growth in writing ability.

The pre and post writing samples were then analyzed for the following variables:

1. Rating scores assigned for quality and development of ideas
2. Rating scores assigned for organization
3. Rating scores assigned for style

4. Rating scores assigned for wording and phrasing
5. Total rating scores (sum of 1 through 4).

Two three-hour training sessions were held for the readers. During the first session the definitions of High, Middle and Low which accompanied the rating scale (Appendix C) were discussed and sample papers were rated. At the second session more sample papers were rated, and the readers discussed reasons for giving papers particular ratings. The readers at the conclusion of the second session were in general agreement.

After the compositions had been rated by readers, the two ratings were averaged if on any one item there was no more than a two-point spread. Where the spread was more than two points on any one item, a third reader rated the composition and the three ratings were averaged.

To test for significance (at the .05 level) the mean differences between the experimental and control group at each grade level for the five major and seven secondary variables, _t_ tests were computed:

1. Rating scores assigned for quality and development of ideas
2. Rating scores assigned for organization
3. Rating scores assigned for style
4. Rating scores assigned for wording and phrasing
5. Total rating scores (sum of 1 through 4)
6. Number of T-units per 100 words
7. Mean number of words per T-unit
8. Number of clauses per 100 words
9. Mean number of words per clause
10. Ratio of clauses per T-unit
11. Number of coordinators between main clauses per 100 words
12. Mean length of punctuated sentences.

To determine the difference between experimental boys and experimental girls at each grade level on the twelve variables, t tests were computed for each group.

A one-way analysis of variance was computed to determine whether there were differences in mean gain scores among the four experimental groups on the following variables:

1. Rating scores assigned for quality and development of ideas
2. Rating scores assigned for organization
3. Rating scores assigned for style
4. Rating scores assigned for wording and phrasing
5. Total rating scores assigned (sum of 1 through 4)
6. Number of T-units per 100 words
7. Average number of words per T-unit
8. Ratio of clauses per T-unit.

When a significant F was found, the significance of post-hoc comparisons was computed following Scheffé.[1]

Because reader rating scores were averaged, coefficients of reliability between the two readers were not computed.

Chapter IV presents the analysis of the collected data.

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[1] William L. Hays, Statistics for Psychologists (New York: Holt, Rinehart and Winston, 1963), pp. 484-85.

CHAPTER IV

ANALYSIS OF THE DATA

This study obtained data relating to the effect of teaching basic rhetorical concepts to selected elementary school children in grades three through six. The data were analyzed to answer these questions:

I. Composition
   A. What effect did the study of basic rhetorical concepts of invention, arrangement, and style have on improvement in written composition as measured by the five reader rating scores:
      Rating scores assigned for quality and development of ideas
      Rating scores assigned for organization
      Rating scores assigned for style
      Rating scores assigned for wording and phrasing
      Total rating scores (sum of 1 through 4)?

   B. Was there a significant difference between the experimental boys and the experimental girls at each grade level on the five reader rating scores?

   C. Were there differences in mean gain scores among the four experimental groups on the five reader rating scores?

II. Related language growth
   A. Did the study of basic rhetorical concepts of invention, arrangement and style effect growth in sentence structure as measured by the following seven variables:
      Mean number of T-units per 100 words
      Mean number of words per T-unit
      Mean number of clauses per 100 words
      Mean number of words per clause
      Ratio of clauses to T-units
      Mean number of coordinators per 100 words
      Mean length of punctuated sentence?

B. Was there a significant difference between the experimental boys and the experimental girls at each grade level on the above seven variables?

C. Were there differences in mean gain scores among the four experimental groups on the following three variables:
   Mean number of T-units per 100 words
   Mean number of words per T-unit
   Ratio of clauses to T-units ?

Composition ratings, experimental and control

Four compositions, two written in September, 1967, and two written in May, 1968, from each of the 150 experimental group children and 40 control group children were read by two trained readers using a modified form of a rating scale developed by Paul B. Diederich and Educational Testing Service.[1] The scale provided separate scores related to invention, arrangement, and style, plus a total score. The form used by the readers and definitions of "high," "middle," and "low" ratings constitute Appendix C.

To assure that the experimental and control groups in September were statistically similar in their ability to write as measured by the readers using the scale, *t* tests were computed on the mean pre-scores. The computed *t*'s for the total rating scores for the pre compositions of the four experimental and four control groups are listed below:

Grade 3 $t =$ 0.58
Grade 4 $t =$ 0.46

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[1] Diederich, "How to Measure Growth."

Grade 5 t = 0.90
Grade 6 t = 2.23*

*Significant at the .05 level.

Because the significant t at grade six was in favor of the control group, it was decided to ignore the initial differences between the two groups.

In order to test for significance of differences between the mean gain scores of the experimental and control groups, t tests were used since only two means were being compared.[1] The hypothesis tested was that there is no significant difference between the mean gain scores of the two groups and that any observable difference is due to chance or sampling errors. The following formula was used:[2]

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\left(\frac{N_1 o_1^2 + N_2 o_2^2}{N_1 + N_2 - 2}\right)\left(\frac{1}{N_1} + \frac{1}{N_2}\right)}}$$

The results of the reader ratings for each grade level constitute Tables 5 through 8.

An examination of Table 5 indicates that for the third-grade experimental group, the mean gains on three of the rating scale variables (quality and development of ideas; organization, relevance, movement; and wording and phrasing) were significantly different at the .01 level and that the fourth variable (style, flavor, individuality) was significant at the .05 level. Further, the mean total rating score of the third-grade experimental group was significantly different at the .01 level. Therefore, the hypothesis of chance or sampling errors accounting for the differences between the means was rejected.

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[1] Henry E. Garrett in *Statistics in Psychology and Education* (New York: David McKay, 1958), p. 290 reports that when there are only two means to be compared, the F test (analysis of variance) and the t test "give exactly the same result" ($F = t^2$ or $t = \sqrt{F}$).

[2] E. F. Lindquist, *Statistical Analysis in Educational Research* (New York: Houghton Mifflin Co., 1940), p. 57.

Inspection indicates that the third-grade experimental group made gains over the control group in ability to write when measured by the reader rating scores. It is assumed that the mean-score differences between the experimental and control groups after the eight-month instructional period are the result of the program provided for the experimental group.

An examination of Table 6 indicates that for the fourth-grade experimental group none of the rating scale variables was significantly different. Therefore, the hypothesis of chance or sampling errors accounting for the differences between each set of means was retained at grade four.

It is assumed that the eight-month instructional period had no measurable effect on the writing of the fourth-grade experimental group.

TABLE 5

A COMPARISON OF THE MEAN GAIN ON THE PRE AND POST READER RATING SCORES OF THE THIRD-GRADE EXPERIMENTAL AND CONTROL GROUPS

Rating Scale Variable	Experimental Pre $\bar{X}$ (N=40)	S.D.	Experimental Post $\bar{X}$ (N=40)	S.D.	Control Pre $\bar{X}$ (N=10)	S.D.	Control Post $\bar{X}$ (N=10)	S.D.	t
Ideas	7.00	1.25	9.20	1.03	6.40	1.78	6.80	1.53	3.17**
Organization	3.20	0.63	4.90	0.31	3.00	0.74	3.60	0.64	3.14**
Style	3.30	0.94	4.80	0.42	3.10	0.67	3.50	0.65	2.62*
Wording	6.40	1.26	9.40	0.83	6.40	1.53	6.80	1.40	4.32**
Total Rating Score	20.00	3.74	28.33	2.45	19.10	4.51	20.80	3.70	4.49**

*Significant at the .05 level.
**Significant at the .01 level.

TABLE 6

A COMPARISON OF THE MEAN GAINS ON THE PRE AND POST READER RATING SCORES OF THE FOURTH-GRADE EXPERIMENTAL AND CONTROL GROUPS

Rating Scale Variable	Experimental Pre $\bar{X}$ (N=40)	S.D.	Experimental Post $\bar{X}$ (N=40)	S.D.	Control Pre $\bar{X}$ (N=10)	S.D.	Control Post $\bar{X}$ (N=10)	S.D.	$\underline{t}$
Ideas	7.25	1.64	9.25	0.70	7.27	1.48	8.63	1.07	1.01
Organization	6.55	1.88	8.95	1.07	6.73	1.76	8.54	0.99	0.71
Style	3.65	0.85	4.60	0.57	3.73	0.62	4.63	0.48	0.18
Wording	3.40	0.66	4.45	0.50	3.82	0.72	4.54	0.65	1.19
Total Rating Score	21.05	4.79	27.15	2.49	21.82	4.69	25.36	2.67	1.70

Table 7 presents the data for the fifth-grade experimental and control groups. An examination of the table indicates that while two of the rating scale variables (quality and development of ideas; style, flavor, individuality) were significantly different at the .05 level, the total rating score was not. From an examination of the data it would appear that the control group made greater gains in invention and style than did the experimental group. However, since the total reader rating gains were not significantly different, the hypothesis of chance or sampling errors accounting for the differences between the two groups was retained at grade five.

An examination of Table 8 indicates that for the sixth-grade experimental group, none of the rating scale variables was significantly different. Therefore, the hypothesis of chance or sampling errors accounting for the differences between each set of means was retained at grade six.

It is assumed that the eight-month instructional period had no measurable effect on the writing of the sixth-grade experimental group.

Summary

On reviewing Tables 5 through 8, the data indicate that only for the third-grade experimental group were the rating scale variables significantly different at or beyond the .05 level. While the fifth-grade data (Table 7) indicate that for the control group two of the rating scale variables were significantly different at the .05 level, the total reader rating variable was not significantly different at that level.

TABLE 7

A COMPARISON OF THE MEAN GAINS ON THE PRE AND POST READER RATING SCORES OF THE FIFTH-GRADE EXPERIMENTAL AND CONTROL GROUPS

Rating Scale Variable	Experimental Pre $\bar{X}$ (N=40)	S.D.	Experimental Post $\bar{X}$ (N=40)	S.D.	Control Pre $\bar{X}$ (N=10)	S.D.	Control Post $\bar{X}$ (N=10)	S.D.	t
Ideas	7.40	0.78	8.60	0.83	7.12	0.78	9.25	0.66	2.24*
Organization	7.40	0.91	8.07	0.90	7.37	1.32	8.37	1.41	0.77
Style	3.77	0.50	4.22	0.50	3.50	0.50	4.75	1.43	4.36**
Wording	3.55	0.50	3.92	0.46	3.50	0.50	4.12	0.60	1.02
Total Rating Score	22.22	2.13	25.03	1.84	21.50	2.29	26.50	2.70	1.96

*Significant at the .05 level.
**Significant at the .01 level.

TABLE 8

A COMPARISON OF THE MEAN GAINS ON THE PRE AND POST
READER RATING SCORES OF THE SIXTH-GRADE
EXPERIMENTAL AND CONTROL GROUPS

Rating Scale Variable	Experimental Pre $\bar{X}$ (N=40)	S.D.	Experimental Post $\bar{X}$ (N=40)	S.D.	Control Pre $\bar{X}$ (N=10)	S.D.	Control Post $\bar{X}$ (N=10)	S.D.	$\underline{t}$
Ideas	7.20	1.07	8.07	1.75	8.20	1.40	9.20	0.63	0.26
Organization	7.25	1.25	8.25	1.64	8.20	1.13	8.70	0.47	0.99
Style	3.25	0.66	4.25	0.83	3.80	0.79	4.40	0.68	1.11
Wording	3.20	0.63	4.25	0.66	3.70	0.82	4.40	0.50	1.12
Total Rating Score	20.90	3.26	24.84	3.30	23.90	3.87	26.80	1.69	0.75

Composition ratings, experimental boys and girls

The five reader rating scores obtained for each of the experimental group members were further analyzed to determine whether there was a significant difference between the mean gain scores of the experimental boys and the experimental girls at each grade level. Since only two means were being compared, t tests were computed to test for significance. The hypothesis tested was that there is no significant difference between the mean gain scores of the two groups and that any observable difference is due to chance or sampling errors.

To assure that the experimental boys and the experimental girls in September were statistically similar in ability to write as measured by the readers using the rating scale, t tests were computed on the mean pre-scores. The computed t's for the total rating scores are listed below:

Grade 3 $t =$ 0.93
Grade 4 $t =$ 0.81
Grade 5 $t =$ 0.90
Grade 6 $t =$ 0.98

Tables 9 through 12 present the mean of the pre- and post-rating scale variables for the four grade levels.

TABLE 9

A COMPARISON OF THE MEAN GAINS ON THE PRE AND POST READER RATING SCORES OF THE THIRD-GRADE EXPERIMENTAL BOYS AND EXPERIMENTAL GIRLS

Rating Scale Variable	Boys Pre $\bar{X}$ (N=20)	S.D.	Boys Post $\bar{X}$ (N=20)	S.D.	Girls Pre $\bar{X}$ (N=20)	S.D.	Girls Post $\bar{X}$ (N=20)	S.D.	t
Ideas	6.70	0.47	8.70	0.94	6.30	1.49	9.80	0.37	4.18**
Organization	7.30	0.94	8.30	1.25	6.80	1.34	9.60	0.47	4.62**
Style	3.30	0.47	4.60	0.47	3.20	0.69	5.00	0.00	1.97
Wording	3.30	0.47	4.30	0.47	3.30	1.10	5.00	0.00	2.15*
Total Rating Score	20.70	2.05	26.00	2.94	19.70	4.31	29.50	0.76	3.76**

*Significant at the .05 level.
**Significant at the .01 level.

TABLE 10

A COMPARISON OF THE MEAN GAINS ON THE PRE AND POST READER RATING SCORES OF THE FOURTH-GRADE EXPERIMENTAL BOYS AND EXPERIMENTAL GIRLS

Rating Scale Variable	Boys Pre $\bar{X}$ (N=20)	S.D.	Boys Post $\bar{X}$ (N=20)	S.D.	Girls Pre $\bar{X}$ (N=20)	S.D.	Girls Post $\bar{X}$ (N=20)	S.D.	$\underline{t}$
Ideas	7.60	1.76	9.00	0.75	7.10	1.54	9.40	0.62	1.62
Organization	6.70	2.25	8.60	1.29	6.50	1.65	9.20	0.86	1.18
Style	3.70	0.88	4.40	0.49	3.60	0.84	4.80	0.57	1.41
Wording	3.40	0.73	4.30	0.45	3.40	0.62	4.50	0.50	1.25
Total Rating Score	21.80	5.30	26.10	2.90	20.60	4.43	27.70	2.05	1.74

TABLE 11

A COMPARISON OF THE MEAN GAINS ON THE PRE AND POST READER RATING SCORES OF THE FIFTH-GRADE EXPERIMENTAL BOYS AND EXPERIMENTAL GIRLS

Rating Scale Variable	Boys Pre $\bar{X}$ (N=20)	S.D.	Boys Post $\bar{X}$ (N=20)	S.D.	Girls Pre $\bar{X}$ (N=20)	S.D.	Girls Post $\bar{X}$ (N=20)	S.D.	t
Ideas	7.40	0.75	8.30	0.91	7.30	0.81	8.80	0.63	2.77**
Organization	7.40	0.83	8.20	0.58	7.40	0.98	7.90	1.10	0.82
Style	3.80	0.36	4.30	0.46	3.70	0.59	4.10	0.51	0.12
Wording	3.80	0.42	4.00	0.55	3.30	0.48	3.80	0.35	1.19
Total Rating Score	22.50	1.91	25.00	1.84	21.90	2.28	25.10	1.83	0.85

**Significant at the .01 level.

TABLE 12

A COMPARISON OF THE MEAN GAINS ON THE PRE AND POST READER RATING SCORES OF THE SIXTH-GRADE EXPERIMENTAL BOYS AND EXPERIMENTAL GIRLS

Rating Scale Variable	Boys Pre $\bar{X}$ (N=15)	S.D.	Boys Post $\bar{X}$ (N=15)	S.D.	Girls Pre $\bar{X}$ (N=15)	S.D.	Girls Post $\bar{X}$ (N=15)	S.D.	*t*
Ideas	6.80	0.90	7.80	1.77	7.40	1.11	8.20	1.72	0.35
Organization	7.00	1.15	8.10	1.57	7.40	1.28	8.30	1.67	0.38
Style	3.10	0.68	3.80	1.07	3.30	0.64	4.50	0.50	1.31
Wording	3.20	0.69	4.00	0.81	3.20	0.60	4.40	0.49	1.19
Total Rating Score	20.20	3.13	23.80	4.19	21.30	3.26	25.40	3.95	0.25

2

An examination of the four Tables (9, 10, 11, 12) indicates that only at the third grade were significant t's found when experimental girls and boys were compared. For the third-grade experimental girls, three of the rating scale variables (quality and development of ideas, organization, relevance, movement; and total rating score) were significantly different at the .01 level. Further, a fourth variable (wording and phrasing) was significantly different at the .05 level. Only one variable, style, was not significantly different. Inspection indicates that the girls made gains greater than did the boys.

For the other three groups, only the fifth-grade experimental girls present a significantly different variable. For this group, one variable, quality and development of ideas, is significantly different at the .01 level. Inspection indicates that the gain of the girls was greater than that of the boys. But the total rating score was not significantly different.

Therefore, the hypothesis of chance or sampling errors accounting for the differences between the means was rejected for the third-grade group but was retained for the fourth-, fifth-, and sixth-grade groups.

Inspection of Tables 9 through 12 indicates that only at the third grade did the girls appear to make gains in ability to write over the boys when measured by the reader rating scores.

Composition ratings, four experimental groups

To determine whether there were significant differences in mean gain scores among the four experimental groups on the five reader rating scores, a one-way analysis of variance was computed. The hypothesis tested was that there is no significant difference in mean gain scores among the four experimental groups. When a significant F was found, the significance of post-hoc comparisons was computed.

Table 13 presents the findings of the one-way analysis of variance computed for the four experimental groups on the five variables.

TABLE 13

ANALYSIS OF DIFFERENCES BETWEEN THE FOUR EXPERIMENTAL GROUPS ON FIVE READER RATING VARIABLES

Reader Rating Variable	Source of Variation	Sums of Squares	df	F
Ideas	Between groups	94.91	3.00	30.41**
	Within groups	151.87	146.00	
Organization	Between groups	79.99	3.00	16.81**
	Within groups	231.53	146.00	
Style	Between groups	26.11	3.00	18.80**
	Within groups	67.60	146.00	
Wording	Between groups	23.56	3.00	23.69**
	Within groups	48.41	146.00	
Total Rating	Between groups	695.60	3.00	27.48**
	Within groups	1231.79	146.00	

**Significant at the .01 level.

Inspection of Table 13 indicates that for each of the five reader rating variables, the mean gain scores were significantly different at the .01 level of significance. Thus the hypothesis of no significant difference was rejected.

Because the F's are significant, post-hoc comparisons were performed to evaluate the differences among the mean gain scores combined in all possible ways. Post-hoc comparisons answered the questions: Are all of the mean gain scores significantly different from each other? Is there a difference between some of the means and not between others? The procedure followed in performing the Scheffé test of post-hoc comparison constitutes Appendix D.

Tables 14 through 18 present a comparison of the mean gain scores for the five reader variables. Those gain scores which were found, by the Scheffé test, to be significant are marked.

TABLE 14

A COMPARISON OF THE MEAN GAIN SCORES
OF THE FOUR EXPERIMENTAL GROUPS ON
THE TOTAL RATING SCORE VARIABLE

Grade	Mean Gain	Mean Differences[a] 4	5	6
3	8.33	+2.23*	+5.52*	+4.39*
4	6.10		+3.29*	+2.16*
5	2.81			-1.13*
6	3.94			

[a] The mean differences are calculated by subtracting the grade 4, 5, and 6 mean gains from the grade 3 mean gain. Tables 15 through 18 are similar.

*Significant at the .05 level.

An examination of Table 14 indicates that the mean gain of the third-grade experimental group was significantly different from that of the fourth-, fifth-, and sixth-grade groups. The mean gain of the fourth-grade experimental group was significantly different from that of the fifth- and sixth-grade groups. The mean gain of the fifth-grade group was significantly different from that of the sixth-grade group. The Scheffé test indicates that the significant F's noted in Table 13 demonstrate that the means of the four groups were different, and in this case that all four means were significantly different from each other.

TABLE 15

A COMPARISON OF THE MEAN GAIN SCORES OF THE FOUR EXPERIMENTAL GROUPS ON THE VARIABLE, QUALITY AND DEVELOPMENT OF IDEAS

Grade	Mean	Mean Differences 4	 5	 6
3	2.20	0.20	1.00*	1.33*
4	2.00-		+0.80*	+1.13*
5	1.20			+0.33
6	0.87			

*Significant at the .05 level.

A comparison of mean gain scores on the variable, quality and development of ideas, indicates that the mean gain of the third-grade group was significantly different from the fifth- and sixth-grade groups but not from the fourth-grade group. The gain of the fourth-grade group was significantly different from that of the fifth- and sixth-grade groups, but the gain of the fifth-grade group was not significantly different from that of the sixth-grade group.

TABLE 16

A COMPARISON OF THE MEAN GAIN SCORES OF THE FOUR EXPERIMENTAL GROUPS ON THE VARIABLE, ORGANIZATION

Grade	Mean	Mean Differences 4	5	6
3	1.70	-0.60	+1.03*	0.70
4	2.30-		+1.63*	+1.30*
5	0.67-			-0.33
6	1.00-			

*Significant at the .05 level.

Table 16 indicates that the mean gain score of the third-grade group, while being significantly different from that of the fifth-grade group, is not different from that of the fourth- and sixth-grade groups. The mean gain of the fourth-grade is significantly different from that of the fifth- and sixth-grade groups, but the mean gain of the fifth-grade is not significantly different from that of the sixth-grade group.

TABLE 17

A COMPARISON OF THE MEAN GAIN SCORES OF THE FOUR EXPERIMENTAL GROUPS ON THE VARIABLE, STYLE

Grade	Mean	Mean Differences 4	 5	 6
3	1.50	+0.55*	+1.05*	+0.50*
4	0.95		+0.50*	-0.05
5	0.45			-0.55*
6	1.00			

*Significant at the .05 level.

An examination of Table 17 indicates that the mean gain of the third-grade experimental group is significantly different from that of the fourth-, fifth-, and sixth-grade groups. The mean gain of the fourth-grade group is significantly different from that of the fifth-grade group but not from that of the sixth-grade group. However, the mean gain score of the fifth-grade group is significantly different from that of the sixth grade.

Table 18 indicates that the mean gain of the third-grade group is significantly different from that of the fourth-, fifth-, and sixth-grade group. The fourth-grade group mean gain is significantly different from the fifth-grade group but not from the sixth-grade group. The mean gain of the fifth-grade group is significantly different from the sixth grade.

TABLE 18

A COMPARISON OF THE MEAN GAIN SCORES OF THE FOUR EXPERIMENTAL GROUPS ON THE VARIABLE, WORDING

Grade	Mean	Mean Differences		
		4	5	6
3	3.00	+1.95*	+2.63*	+1.94*
4	1.05-		+0.68*	-0.01
5	0.37-			-0.69*
6	1.06			

*Significantly different at the .05 level.

Summary

The data presented in Tables 13 through 18 indicate that while there were significant differences in mean gain scores on each of the five reader rating variables, not all of the means were significantly different from each other. It was found that there were significant differences between some of the means and not between others.

On three of the five variables the mean gain of the third-grade group was significantly different from that of the fourth-grade group and that of the sixth-grade group.

On all five variables the mean gain of the third-grade group was significantly different from that of the fifth-grade group.

The mean gain of the fourth-grade group was significantly different from the fifth-grade group on all five variables and different from the sixth-grade group on three variables.

The null hypothesis of no significant difference in mean gain scores among the four experimental groups was rejected. The post-hoc comparisons indicated which of the mean gains differed significantly.

Related language growth, experimental and control

During September and again in May, four hundred words of writing were collected from each of the children in the experimental and control groups. The two four-hundred-word samples (pre and post) of each child were analyzed for the following seven variables:

1. number of T-units per 100 words
2. mean number of words per T-unit
3. number of clauses per 100 words
4. mean number of words per clause
5. ratio of clauses to T-unit
6. mean number of coordinators between main clauses
7. mean length of punctuated sentences.

The first variable, number of T-units per 100 words, has been defined in Chapter III. Each four-hundred-word sample was segmented into T-units, "minimal terminable units,"[1] and the mean number of T-units was computed. Next, both the pre and post means and standard deviations for each experimental and control group were computed. The means were subjected to a *t* test. These same statistical computations were computed for each of the seven variables.

The mean number of words per T-unit, the second variable, was computed for each sample by dividing the total number of words in each sample by the total number of T-units.

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[1] Hunt, p. 21.

The third variable, number of clauses per hundred words, was found by counting the number of clauses in each sample and dividing the number of clauses into the total number of words in the sample. Clauses were taken to be a unit containing a subject and a finite verb. Coordinated subjects or verbs merely lengthened the clause.

The mean number of words per clause, the fourth variable, was computed by dividing the total number of words in each sample by the total number of clauses.

The fifth variable, ratio of clauses to T-unit, was defined as the number of all clauses (both subordinate and main) divided by the number of T-units.

The number of coordinators between main clauses per 100 words, the sixth variable, was computed by dividing the total number words in the sample by the total number of coordinators between main clauses. The principal coordinators were and, but, and so.

The seventh variable, mean length of punctuated sentences, was found by counting the number of passages set off with capital letters and terminal punctuation marks. The number was then divided by the total number words in the sample.

The seven variables were analyzed for the pre and post means of each experimental and control group. The hypothesis tested was that there is no significant difference between the mean gain score of the experimental and control groups and that any observable difference is due to chance or sampling errors. The results of the analysis of the seven variables for each grade level constitute Tables 19 through 22.

TABLE 19

A COMPARISON OF THE MEAN GAINS ON THE SEVEN PRE AND POST LANGUAGE VARIABLES OF THE THIRD-GRADE EXPERIMENTAL AND CONTROL GROUPS

Variable	Experimental Pre $\bar{X}$ (N=40)	S.D.	Experimental Post $\bar{X}$ (N=40)	S.D.	Control Pre $\bar{X}$ (N=10)	S.D.	Control Post $\bar{X}$ (N=10)	S.D.	*t*
Mean no. T-units per 100 words	12.42	1.86	10.35	1.78	13.12	2.52	11.72	2.38	4.02**
Mean no. words per T-unit	8.22	1.16	10.27	2.15	7.78	1.33	8.87	1.74	1.64
Mean no. clauses per 100 words	14.57	1.67	15.81	2.14	15.57	2.05	16.11	2.40	0.90
Mean no. words per clause	6.94	0.77	6.43	0.77	6.53	0.87	6.33	0.85	1.11
Ratio of clauses to T-unit	1.78	0.07	1.42	0.13	1.20	0.09	1.39	0.16	8.48**
Mean no. coordinators per 100 words	2.29	1.39	1.59	0.92	3.62	1.99	2.14	0.96	1.45
Mean length of punctuated sentence	11.52	2.84	11.76	2.87	10.83	2.57	11.64	1.89	0.96

**Significantly different at the .01 level.

An examination of Table 19 indicates that for the third-grade group, the gain scores made on two of the seven variables, mean number of T-units per 100 words and ratio of clauses to T-units, were significantly different at the .01 level. Inspection indicates that the third-grade experimental group made gains over the control group in reducing the number of T-units per 100 words. However, the experimental group reduced the ratio of clauses to T-units, while the control group increased the ratio.

An examination of Table 20 indicates that for the fourth-grade group only the gain scores made on the third variable, mean number of clauses per 100 words were significantly different from one another. Inspection indicates that while both the experimental and the control groups decreased the number of clauses per 100 words, the decrease of the control group appeared greater than that of the experimental group.

At the fifth grade (Table 21), none of the seven variables indicate a significantly different mean gain between the experimental and control groups. Table 22 indicates that for the sixth-grade group, the second variable (mean number of words per T-unit) produced mean gain scores which were significantly different at the .05 level.

TABLE 20

A COMPARISON OF THE MEAN GAINS ON THE SEVEN PRE AND POST LANGUAGE VARIABLES OF THE FOURTH-GRADE EXPERIMENTAL AND CONTROL GROUPS

Variable	Experimental Pre $\bar{X}$ (N=40)	S.D.	Experimental Post $\bar{X}$ (N=40)	S.D.	Control Pre $\bar{X}$ (N=10)	S.D.	Control Post $\bar{X}$ (N=10)	S.D.	$\underline{t}$
Mean no. T-units per 100 words	12.81	2.17	11.75	2.16	12.87	2.05	11.50	1.52	0.30
Mean no. words per T-unit	8.02	1.45	8.80	1.66	7.80	1.13	8.73	1.14	0.34
Mean no. clauses per 100 words	15.50	2.05	15.40	2.19	15.65	2.17	13.87	1.17	2.10*
Mean no. words per clause	6.50	0.80	6.63	0.97	6.57	0.93	7.26	0.62	1.55
Ratio of clauses to T-units	1.23	0.14	1.32	0.11	1.20	0.13	1.21	0.10	1.59
Mean no. coordinators per 100 words	0.81	0.90	0.51	0.46	0.37	0.80	0.06	0.11	0.0
Mean length of punctuated sentence	8.40	2.26	9.72	2.27	9.69	2.67	10.24	2.47	0.97

*Significantly different at the .05 level.

TABLE 21

A COMPARISON OF THE MEAN GAINS ON THE SEVEN PRE AND POST LANGUAGE VARIABLES OF THE FIFTH-GRADE EXPERIMENTAL AND CONTROL GROUPS

Variable	Experimental Pre $\bar{X}$ (N=40)	S.D.	Experimental Post $\bar{X}$ (N=40)	S.D.	Control Pre $\bar{X}$ (N=10)	S.D.	Control Post $\bar{X}$ (N=10)	S.D.	t
Mean no. T-units per 100 words	10.09	4.20	8.78	1.45	10.58	1.42	9.16	1.14	0.20
Mean no. words per T-unit	10.10	2.72	11.22	2.18	9.43	1.72	11.06	1.24	0.63
Mean no. clauses per 100 words	14.31	2.24	13.35	1.57	14.48	0.78	12.84	1.15	1.24
Mean no. words per clause	7.16	1.36	7.78	1.38	6.91	0.41	7.84	0.65	0.75
Ratio of clauses to T-units	1.40	0.26	1.53	0.18	1.40	0.15	1.41	0.12	1.66
Mean no. coordinators per 100 words	1.83	0.72	1.10	0.71	1.23	0.34	1.03	0.78	1.05
Mean length of punctuated sentence	13.31	3.32	15.50	3.15	11.59	1.92	12.71	1.60	1.08

TABLE 22

A COMPARISON OF THE MEAN GAINS ON THE SEVEN PRE AND POST LANGUAGE VARIABLES OF THE SIXTH-GRADE EXPERIMENTAL AND CONTROL GROUPS

Variable	Experimental Pre $\bar{X}$ (N=30)	S.D.	Experimental Post $\bar{X}$ (N=30)	S.D.	Control Pre $\bar{X}$ (N=10)	S.D.	Control Post $\bar{X}$ (N=10)	S.D.	$\underline{t}$
Mean no. T-units per 100 words	10.88	1.58	9.17	1.79	10.77	2.56	10.66	1.83	1.48
Mean no. words per T-unit	9.39	1.31	11.30	2.17	9.76	2.05	9.61	1.40	2.34*
Mean no. clauses per 100 words	13.64	1.59	12.82	2.46	14.65	1.74	13.78	2.38	0.04
Mean no. words per clause	7.33	0.92	8.08	1.54	6.92	0.86	7.47	1.26	0.29
Ratio of clauses to T-units	1.28	0.16	1.40	0.12	1.38	0.24	1.30	0.16	1.99
Mean no. coordinators per 100 words	0.88	0.67	0.58	0.59	1.02	1.34	0.64	0.40	0.14
Mean length of punctuated sentence	11.90	2.03	12.34	2.94	12.70	4.90	10.30	2.30	1.87

*Significantly different at the .05 level.

Summary

The data presented in Tables 18 through 21 indicate that no single variable produced gain scores that were significantly different consistently throughout the four grades. At grade three, variables 1 and 5 produced significantly different mean gains; at grade four it was variable 3; at grade five none of the variables produced significantly different mean gains; and at grade six, only variable 2 produced significantly different mean gain scores. No pattern emerges. It was thus assumed that, taken together, the seven variables were little affected by the experimental program.

Related language growth, experimental boys and girls

The seven language variables for each of the experimental group members was further analyzed to determine whether there was a significant difference between the mean gain scores of the experimental boys and the experimental girls at each grade level. The hypothesis tested was that there is no significant difference between the mean gain scores of the two groups and that any observable difference is due to chance or sampling errors.

To assure that the experimental boys and the experimental girls were statistically similar as measured by the pre means of the seven variables, *t* tests were computed on the pre means. The computed *t*'s for the pre means of the seven variables constitute Table 23.

TABLE 23

COMPUTED t's ON THE PRE MEANS OF THE
EXPERIMENTAL BOYS AND GIRLS FOR
THE SEVEN LANGUAGE VARIABLES[a]

Variables	*t*'s Grade 3	 Grade 4	 Grade 5	 Grade 6
Mean no. T-units per 100 words	0.89	0.36	0.04	1.54
Mean no. words per T-unit	0.77	0.56	1.04	1.43
Mean no. clauses per 100 words	0.48	1.86	0.34	0.37
Mean no. words per clause	0.73	1.27	0.63	0.25
Ratio of clauses to T-units	1.00	1.46	0.61	1.77
Mean no. coordinators per 100 words	0.71	0.50	0.13	0.27
Mean length of punctuated sentence	1.23	0.98	0.16	1.53

[a] Means and standard deviations may be found in Tables 24 through 27.

From an inspection of Table 23, it appears that at each grade there was no significant difference between the experimental boys and girls in September as measured by the seven variables at the beginning of the experiment.

Tables 24 through 27 present a comparison of the pre and post means of the seven language related variables for the experimental and control groups at each grade level.

TABLE 24

A COMPARISON OF THE MEAN GAINS ON THE SEVEN LANGUAGE
VARIABLES OF THE THIRD-GRADE EXPERIMENTAL BOYS
AND EXPERIMENTAL GIRLS

Variable	Boys Pre $\bar{X}$ (N=20)	S.D.	Boys Post $\bar{X}$ (N=20)	S.D.	Girls Pre $\bar{X}$ (N=20)	S.D.	Girls Post $\bar{X}$ (N=20)	S.D.	t
Mean no. T-units per 100 words	12.08	1.55	11.38	1.18	12.58	1.97	9.83	1.81	2.33*
Mean no. words per T-unit	8.41	1.13	9.45	1.78	8.13	1.16	10.67	2.20	1.77
Mean no. clauses per 100 words	14.39	2.04	15.01	0.86	14.66	1.43	16.21	2.46	1.15
Mean no. words per clause	7.07	0.97	6.68	0.37	6.88	0.64	6.30	0.88	0.56
Ratio of clauses to T-unit	1.19	0.05	1.33	0.14	1.17	0.08	1.47	0.09	3.77**
Mean no. coordinators per 100 words	2.07	1.69	1.66	0.96	2.40	1.19	1.55	0.89	0.67
Mean length of punctuated sentence	10.85	1.85	10.53	2.16	11.86	3.17	12.38	2.98	0.88

*Significantly different at the .05 level.
**Significantly different at the .01 level.

TABLE 25

A COMPARISON OF THE MEAN GAINS ON THE SEVEN LANGUAGE VARIABLES OF THE FOURTH-GRADE EXPERIMENTAL BOYS AND EXPERIMENTAL GIRLS

Variable	Boys Pre $\bar{X}$ (N=20)	S.D.	Boys Post $\bar{X}$ (N=20)	S.D.	Girls Pre $\bar{X}$ (N=20)	S.D.	Girls Post $\bar{X}$ (N=20)	S.D.	t
Mean no. T-units per 100 words	13.07	3.45	10.38	1.83	12.78	1.01	12.49	1.94	2.50*
Mean no. words per T-unit	8.18	2.27	9.94	1.83	7.88	0.74	8.17	1.15	2.23*
Mean no. clauses per 100 words	16.32	2.55	13.94	1.66	15.08	1.54	16.20	2.06	4.59**
Mean no. words per clause	6.29	0.93	7.28	0.95	6.62	0.70	6.27	0.77	4.44**
Ratio of clauses to T-unit	1.29	0.19	1.36	0.14	1.18	0.28	1.30	0.09	0.75
Mean no. coordinators per 100 words	0.99	0.54	0.57	0.61	0.86	1.04	0.48	0.35	0.09
Mean length of punctuated sentence	8.88	2.86	8.71	2.52	8.15	1.69	10.26	1.91	2.69*

*Significantly different at the .05 level.
**Significantly different at the .01 level.

TABLE 26

A COMPARISON OF THE MEAN GAINS ON THE SEVEN LANGUAGE VARIABLES OF THE FIFTH-GRADE EXPERIMENTAL BOYS AND EXPERIMENTAL GIRLS

Variable	Boys Pre $\bar{X}$ (N=20)	S.D.	Boys Post $\bar{X}$ (N=20)	S.D.	Girls Pre $\bar{X}$ (N=20)	S.D.	Girls Post $\bar{X}$ (N=20)	S.D.	_t_
Mean no. T-units per 100 words	10.40	1.23	8.45	1.24	10.37	2.67	9.13	1.57	1.06
Mean no. words per T-unit	9.69	1.08	11.63	2.19	10.62	3.85	11.28	1.83	1.36
Mean no. clauses per 100 words	14.42	2.20	12.90	1.53	14.18	2.27	13.83	1.47	1.49
Mean no. words per clause	7.03	1.01	8.24	1.63	7.30	1.64	7.29	0.78	2.16*
Ratio of clauses to T-unit	1.38	0.17	1.53	0.20	1.43	0.33	1.53	0.17	0.51
Mean no. coordinators per 100 words	1.81	0.83	1.10	0.56	1.84	0.57	1.11	0.71	0.08
Mean length of punctuated sentence	13.23	2.76	15.52	1.99	13.40	3.83	15.49	4.03	0.16

*Significantly different at the .05 level.

TABLE 27

A COMPARISON OF THE MEAN GAINS ON THE SEVEN LANGUAGE VARIABLES OF THE SIXTH-GRADE EXPERIMENTAL BOYS AND EXPERIMENTAL GIRLS

Variable	Boys Pre $\bar{X}$ (N=15)	S.D.	Boys Post $\bar{X}$ (N=15)	S.D.	Girls Pre $\bar{X}$ (N=15)	S.D.	Girls Post $\bar{X}$ (N=15)	S.D.	$\underline{t}$
Mean no. T-units per 100 words	10.36	1.34	8.29	1.44	11.20	1.63	9.70	1.78	0.67
Mean no. words per T-unit	9.80	1.21	12.43	2.26	9.14	1.31	10.62	1.82	1.25
Mean no. clauses per 100 words	13.76	1.03	12.05	2.00	13.56	1.84	13.28	2.59	1.33
Mean no. words per clause	7.28	0.53	8.58	1.75	7.36	1.09	7.78	1.32	1.20
Ratio of clauses to T-unit	1.34	0.18	1.46	0.12	1.24	0.13	1.37	0.10	0.20
Mean no. coordinators per 100 words	0.92	0.80	0.51	0.35	0.85	0.58	0.61	0.69	0.51
Mean length of punctuated sentence	12.56	1.59	13.64	2.82	11.50	2.16	11.55	2.66	0.82

An inspection of Table 24 indicates that two of the seven variables (T-units per 100 words and ratio of clauses to T-units) produced significantly different mean gains between the third grade experimental boys and girls. On the first variable it appears that the reduction of the number of T-units per hundred words was greater for the girls than for the boys. The girls also appear to have increased the ratio of clauses to T-units more than did the boys.

Table 25 shows that for the fourth grade, five of the seven variables produced significantly different mean gains between the boys and the girls. Three of the variables (clauses per 100 words, words per clause, and mean sentence length) may have produced significant *t*'s because while the girls increased the mean number of clauses per hundred words, the boys had a reduction; while the girls increased their mean length of punctuated sentences, the boys reduced the length of their sentences. Both the boys and the girls reduced the mean number of T-units per hundred words, but it would appear that the boys had a greater reduction.

For grade five (Table 26), one variable (mean number of words per clause) produced significantly different mean gains. The boys increased the number of words per clause while the number of words per clause for the girls remained nearly the same on both the pre and the post count.

An inspection of Table 27 indicates that at the sixth grade none of the mean gains was significantly different.

Summary

The hypothesis of no significant difference between the mean gain scores of the two groups at each of four grade levels was accepted more often than it was rejected. The following list illustrates the rejection and acceptance of the hypothesis:

Variable 1 reject at grades 3 and 4; retain at grades 5 and 6.
Variable 2 reject at grade 4; retain at grades 3, 5, and 6.
Variable 3 reject at grade 4; retain at grades 3, 5, and 6.
Variable 4 reject at grades 4 and 5; retain at grades 3 and 6.
Variable 5 reject at grades 3 and 4; retain at grades 5 and 6.
Variable 6 retain at grades 3, 4, 5, and 6.
Variable 7 reject at grade 4; retain at grades 3, 5, and 6.

No pattern is apparent among the seven variables. None of the variables produces a significantly different mean gain between the experimental boys and girls at all four grades. Three variables (1, 4, and 5) show significantly different mean gains between the boys and girls at two grade levels.

Related language growth, four experimental groups

To determine whether there were significant differences in mean gains among the four experimental groups on three variables (mean number of T-units per 100 words, mean number of words per T-unit, and ratio of clauses to T-units), a one-way analysis of variance was computed. The hypothesis tested was that there is no significant difference in mean gains among the four experimental groups.

Table 28 presents the findings of the one-way analysis of variance computed for the four experimental groups on three variables.

TABLE 28

ANALYSIS OF DIFFERENCES BETWEEN THE FOUR EXPERIMENTAL GROUPS ON THREE VARIABLES

Variable	Source of Variation	Sum of Squares	df	F
Mean no. T-units per 100 words	Between Groups	17.57	3.00	2.07
	Within Groups	413.09	136.00	
Mean no. words per T-unit	Between Groups	39.40	3.00	4.74**
	Within Groups	404.62	146.00	
Ratio of clauses to T-units	Between Groups	0.50	3.00	1.39
	Within Groups	17.48	146.00	

**Significant at the .01 level.

Inspection of Table 28 indicates that only for the second variable (mean number of words per T-unit) were the mean gains significantly different. Thus, only for this variable was the hypothesis of no significant difference rejected.

Because of the significant F for the variable mean number of words per T-unit, a post-hoc comparison was computed. Table 29 presents a comparison of the mean gains for the variable.

TABLE 29

A COMPARISON OF THE MEAN GAIN SCORES OF THE FOUR EXPERIMENTAL GROUPS ON THE VARIABLE, MEAN NO. OF WORDS PER T-UNIT

Grade	Mean Gain	Mean Differences		
		4	5	6
3	2.04-	+1.27*	+0.92	+0.14
4	0.77		-0.35	-1.13
5	1.12			-0.78
6	1.90-			

*Significant at the .05 level.

The Scheffe´ test of post-hoc comparisons (Table 29) indicates that the mean gain of the third-grade experimental group was significantly different from that of the fourth-grade group, but not from that of the fifth- and sixth-grade groups. The mean gains of the other groups were not significantly different from one another.

Summary

While the one-way analysis of differences shows that one of the variables produced significantly different means, the Scheffe´ test indicates that not all four means were significantly different from each other. However, the significant F for the second variable (mean number of words per T-unit) caused the hypothesis to be rejected for that variable. Lack of significant F's for variables 1 and 3 allowed for the retention of the hypothesis for those two.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Purpose of the study

The purpose of this study was to compare the growth in written composition of above-average children[1] in grades three through six who were taught selected concepts of invention, arrangement, and style with the growth in written composition of children who followed the typical English program. The study was posited on the null hypothesis: the written composition of those children in the four experimental groups who are taught the concepts will not improve significantly over the written composition of those children in the four control groups who follow an *ad libitum* program in accordance with what is customarily included at the various grade levels.

The data were analyzed to answer the following questions:

1. What effect did the study of basic rhetorical concepts of invention, arrangement, and style have on the improvement in written composition as measured by the five reader rating variables?
2. Was there a significant difference between the experimental boys and the experimental girls at each grade level on the five reader rating variables?
3. Were there differences in mean gains among the four experimental groups on the five reader rating variables?

---

[1] Children who scored in the 80th percentile or above on either the *California Short-Form Test of Mental Maturity* or the *California Achievement Test* (r=.79).

4. Did the study of basic rhetorical concepts of invention, arrangement, and style effect growth in sentence structure as measured by seven variables?
5. Was there a significant difference between the experimental boys and the experimental girls at each grade level on the seven language related variables?
6. Were there differences in mean gain scores among the four experimental groups on three language related variables?

Conclusions

The following conclusions are based on the analysis of the data:

1. Instruction based on the teaching of selected rhetorical concepts of invention, arrangement, and style appeared to be effective with the third-grade experimental group for promoting growth in written composition as measured by the five reader rating variables. The total rating gain score of the grade three children was significantly different at the .01 level, as were three of the other variables. The fifth variable was significantly different at the .05 level. No other experimental group produced significantly different total reader rating gain scores.

2 It would appear that the instructional program was more effective for the experimental girls than for the experimental boys at the third grade. Four of the five reader rating variables produced significantly different gain scores. The total rating score variable produced gains significant at the .01 level. At the other three grades the total rating score variable produced no significantly different gain scores. At the fifth-grade level one variable (quality and development of ideas) produced significantly different gain scores in favor of the girls. While the girls may have profited more than the

boys from the teaching of invention, this one ability was not enough to allow the girls to produce a total rating score which was significantly different. With the exception of the third-grade group, improvement in written composition did not depend upon the sex variable.

3. The third-grade experimental group had mean gains on three of the five reader rating variables greater than those of grades four and six. On all five variables the mean gain of the third-grade group was significantly different from that of the fifth-grade group. Thus the third-grade group appeared to profit more from the instruction than did the other three groups. The fourth-grade group tended to profit more than did the fifth- and sixth-grade groups. The sixth-grade group profited more than did the fifth-grade group.

4. There appears on inspection to be little relationship between the instructional program taught to the experimental groups and growth in sentence structure as measured by the seven language related variables. None of the variables significant at the one grade was significant at any other grade level. Because no pattern appears to have emerged from an inspection of the seven variables at each grade, it was assumed that the seven variables were little affected by the experimental program. In an experiment of this nature which proposes to measure growth in written composition, the seven language related variables appear not to be indices of overall growth in written composition.

5. The seven language-related variables produce few differences in mean gains between the experimental boys and the experimental girls. Only at the fourth grade do several of the variables--2, 3, 4, 5, and

7--produce significantly different mean gains. Inspection indicates that the boys had a greater reduction in the number of T-units per 100 words than did the girls, that the increase in the number of words per T-unit was greater for the boys, that while the boys reduced the number of clauses per 100 words, the girls had an increase, that while the boys increased the number of words per clause, the girls reduced the number of words, and that while the mean length of punctuated sentences was reduced for the boys, it was increased for the girls. While five of the seven variables were significant, the total reader rating gain scores between the fourth-grade boys and the fourth-grade girls was not significant. Although the seven variables tended to show differences, those differences were not reflected in the reader rating scores.

6. Of the three language-related variables which were analyzed for differences in gain scores between the four experimental groups, only one variable (mean number of words per T-unit) produced a significant difference. When a post-hoc comparison was applied to this difference, it was found that the gain of the third-grade experimental group was significantly different only from that of the fourth-grade group. The third-grade group significantly increased the mean number of words per T-unit when compared with the fourth-grade group. However, no other gains were significantly different.

Summary

It appears that the teaching of selected concepts of invention, arrangement, and style significantly aids the growth in written composition of above-average third-grade children. At the same time, third-grade girls tend to improve more than do the boys.

Beyond the third grade, the experimental program did not produce significant gains. From the data analyzed in this study, it is apparent that this experimental program had little measurable affect on children in grades four, five, and six.

The seven language-related variables appeared to be of little value for this study in measuring growth in written composition. However, the data analyzed in the tables presents further evidence that in sentence structure there is no appreciable difference between boys and girls at any one grade level.

Limitations

The validity of the conclusions must be limited by the following considerations:

1. Although the readers consistently gave higher ratings to the two post compositions than they did to the two pre papers, a question is raised as to the validity of any procedure which used such a limited sample of writing as an indication of the writing ability of children in grades three through six.

2. The validity of extending the findings of this study which used above-average children as subjects to a larger population is unknown.

3. The validity of the samples of writing collected from the control groups may be questioned since this experimenter had no control over the samples submitted. The question as to how much editorial help various control group teachers provided is raised.

4. The validity of the assumption that the control group teachers taught only those aspects of writing included in this textbook is unknown.

Implications

The primary purpose of this study was to compare the growth in written composition of above-average children in grades three through six who were taught selected concepts of invention, arrangement, and style with the growth in written composition of children who followed the typical English program. The study had four weaknesses noted above. The results of the study have indicated, however, that for a limited number of above-average third-grade children, their growth in written composition over the period of one school year does improve when compared with the growth of a similar group who were not in the program.

Implications drawn from this study suggest that the following areas are in need of investigation.

1. A study similar to this with the following changes:
    a. larger numbers of students covering a wider ability span
    b. larger numbers of students in the control group
    c. a two-year instructional period
    d. elimination of the seven language-related variables
    e. an increased number of pre and post writing samples.

2. A study similar to this comparing the effectiveness of other methods for promoting growth in ability to write.

3. A study which would attempt to find out what kind of writing and how much of it children should do at each grade level.

APPENDIX

APPENDIX A

SAMPLE LESSON PLANS

INVENTION I

This lesson helps children acquire questioning techniques that a writer can employ to generate "story ideas." It should help children begin to answer the question, "Where do stories begin?"

Part I

If students are to learn to ask questions they must have considerable practice in doing so. What happens before the students write is, perhaps, more important than what happens during the writing or after the writing is completed.

The discussion with the children should begin with noting how one question often leads to another. Select an object such as a balloon or a colorful paper bag. If a writer wanted to use the object as the beginning for an imaginative story, what might he ask himself about the object?

> What color is it?
> Why do you suppose, is it that color?
> Who owns it?
> How did the owner obtain it?
> What does he do with it?
> Do other people use it?
> If so, what do they do with it?

From such oral practice children will begin to learn how to form such questions. The more time spent with this introductory material, the more adept the children will become in asking questions.

Part II

Either place a transparency of the following paragraph on the overhead or give each child a copy of the paragraph.

STUCK STUDENT

> My friend owned a locket. It was old but it was kind of pretty. Some queer-looking scratches were on the back. Another friend wanted it.

After reading the paragraph, ask each child to consider "What would a reader want to know that the paragraph doesn't tell him?" Have each child write at least one question that would help the writer of the paragraph generate further ideas.

Some examples of questions that might help the writer:

Who is your friend?
Where did your friend get the locket?
What kind of scratches do you mean?
Are the scratches only on the back?
How old? Is it gold? Silver? Rusty-looking?
Who is the other friend?
Why does the other friend want it?

Part III

Choose three simple objects as subjects for composing an imaginative tale. While the objects may be quite varied, several children enjoyed working with these: a pair of wooden shoes, a small gift-wrapped square box, a sealed envelope addressed to Edward Paul, London, England.

Begin by showing one of the objects and eliciting questions similar to those asked in the first part of the lesson. Show the other two objects, one at a time. Remember to elicit many questions before moving on to the next. The questions, along with their answers, will produce a "story thread."

Here are some questions children might ask:

Shoes	Are they antique? Where were they made? Who owns them? How old are they? Why are they so small? Did someone really wear them?
Box	Why so pretty? Did the shoes have anything in common with the box? Who is it for? Is it handwrapped? By whom? Where did the box come from?
Shoes, Box and Letter	What connection do the shoes and the box have with Edward Paul? Who sent the letter? Who is Edward Paul? What is in the letter? Where was the letter sent from?

Part IV

Ask the children to compose an imaginative story using the three objects as their "story thread." Remind the children to keep in mind "What will your reader want to know?"

INVENTION II

This lesson is to be used after children become adept with using the questioning process of invention. Its purpose is to help children move from the general to the more specific.

Part I

One successful technique for illustrating the value of using specific details is to select an excerpt from a story with which the children are familiar and rewrite the excerpt without the specific details. Children will quickly say that the rewritten version is uninteresting. The steps that follow outline one approach. Each step will have to be developed more fully than it is here.

A. Read the following excerpt from Marguerite Henry's Cinnabar, The One O'Clock Fox. It would be more effective if the children had a copy of the excerpt before them as it was read:

> Cinnabar was a big, red, magnificent fellow. Courage and heart showed in the very look of him. A rough scar across his nose and a nick on one ear in no way marred his handsomeness. On the contrary, they gave him a gay and gallant air. They spoke of battles won--over eagles and buzzards and hawks and weasles.
>
> Cinnabar was, in truth, afraid of nothing. Neither of dark nor of storm; nor of hunters nor hounds. He was free and unfearing, the very spirit of the wilds.
>
> With a windblown movement, he went gliding along, his brush of a tail stretched out full. His lively ears pricked to and fro, catching every sound of the night. Pine needles singing. Frogs playing their bassoons. Birds beginning to stir and twitter. It seemed to him that the morning was coming in with a peculiar gladness. (Marguerite Henry, Cinnabar, The One O'Clock Fox /New York: Rand McNally, 1956/, pp. 18-20).

B. The questions below will help to generate a discussion of the specific details used in the excerpt.

1. What single words and sentences are used to describe Cinnabar physically?
2. What words describe his personality?
3. Based on the whole excerpt, what kind of a fox does he appear to be: shy and cowardly, sneaky and impulsive, or what?
4. Can you as a reader actually see Cinnabar as a fox standing motionless and then as he moves about?
5. If your answer is yes, how has the writer accomplished her task of creating a word picture?

C. On the overhead projector or on the board show several comparisons similar to the following:

> A bird was in a tree.
> The brilliant blue bird clung to the dropping limb of a graceful weeping willow.

Remember to keep the comparisons within the ken of the children you are working with. Once the comparisons are listed, ask, for each, "Which one can best be seen? Why?"

Part II

Present two or three excerpts from stories or poems the children are currently reading and ask them to note the specific details. Ask the children to tell what would happen in a particular excerpt if the author had used vague, general terms instead of specific ones?

Such questions should lead the children to see that the readers would not really see the character of the scene. Once the children begin to realize why specific details are important, ask them to expand three or four simple phrases such as: "a big tree," "a nice day," or "a lovely garden." Their purpose will be to let the reader actually see the scene.

When the children have finished writing, look carefully at each paper for specific details. To help those who have not added sufficient detail, ask them questions such as "What kind of tree?", "What shade of red?", or "Why did it look like a picture?"

INVENTION III

This is a lesson in observation--seeing details, and the inclusion of those details in the students' writing to make the difference between a paragraph that is "empty" or bland and one that lets the reader see (hear or smell) the scene as the writer did. The lesson includes some discussion of arrangement of details in a paragraph.

Part I

"In today's lesson we are going to talk about how important it is for a writer to use his eyes and ears and, perhaps, his nose and hands.

"Without looking at your shoes, can you think of one thing you might say about them if you were describing them? Besides color, what else might you say? Are they just shoes?"

Are they rubber-soled?
Heels worn down?
Knotted laces?
Scuffed toes?
Patent leather?
Dusty? Muddy?

Part II

Select a "science" type picture, 8 x 10 or larger. Allow students to observe for approximately twenty seconds.

"What do you remember about the picture?" (Jot answers on the overhead or board as students suggest. Aim for specificity, for example, "Was it just a sky overhead? Or did the sky look as if a storm was near?")

"What kind of feeling did the picture give you, if it did? Sad? Excited? Scary?

"If you had to describe the scene for someone, how might you begin? Would you jump from one detail to another? Is there a way you can arrange the details so another person would be able to see the scene?"

Ask students which detail they would list first. Which next?

"Where might you tell the reader what kind of feeling you had while you were watching the scene? Would the end of the writing be a good place? The beginning?"

On overhead or board, place a number before each detail to help beginning students to organize the ideas now listed. After details are listed:

"How could we write about this picture as if it were a real scene we had been looking at?

"Can someone put the first detail into a sentence?" (write a suggested sentence on overhead.)

"How about the next detail? Are there any details that are almost alike or that might 'go together' in one sentence?"

Part III

Pass to students the following model:

> It was perfectly lovely out in the country; it was summer. I liked looking around and seeing how pretty everything was.

Ask: "Can you tell what the writer means when he says 'lovely'?"

Now, pass to students the second model:

> The country was very lovely just then--it was summer. The wheat was golden and the oats still green. The hay was stacked in the rich low meadows, where the stork marched about on his long red legs, chattering in Egyptian, the language his mother had taught him.

> Round about the field and meadow lay great woods, in the midst of which were deep lakes. Yes, the country certainly was lovely. (Hans Christian Andersen, "The Ugly Duckling" Childcraft, Vol. 2 /Chicago: Field Enterprises Educational Corporation, 1968/, p. 53).

"What details has the writer given you? Has he arranged them so you can see them? Where were the woods? Where does he tell you what he thought about the scene?"

Part IV

Direct observation for five-ten minutes: Fourth graders may want to take notes on cards.

Outside: a house near school.

Inside: the school kitchens (steel and smells)
the kindergarten room.

INVENTION IV

This lesson is a follow-up using student experience as a writing source and serving two purposes; to lead the young writer to recognize that his experiences, however limited he may think they are, are worth relating if he can realize that his readers will enjoy what he has to say because, no doubt, they have witnessed a similar scene and have experienced the same feelings; and the writer has to try and recall details (the "how it was"), and learn to develop these for his readers.

Part I

Discussion suggestions:

"Maybe you've never realized that some experiences in your home would make interesting story material. Have you ever noticed that when you look back on an experience it seems funny although at the time it might not have been?"

Pass out the models:

"The Intruder"

The intruder entered at approximately 7:10 A.M. on April 22. I'm a little uncertain about the time because my sister, Jan, was late getting up for work that morning. Laying in bed, I was straining to hear the Beatles on Jan's clock radio across the hall. Answering Mother's beseeching call every three minutes, "Are you up, Bill?" my brother, a shapeless lump in the twin bed next to me, would murmur, parrot-like, "Right now, Mom." Sizzling sounds came from the kitchen below and I lay there with my eyes shut, smelling the French toast. My five-year old sister, Barbara, was engaged in her morning task of trying to carry our spaniel, Bambi, on her shoulders down the stairs, like some kind of furpiece.

Jan screamed. "Mother - r - r - r!"

Hmm, I thought, bet she's found out that Bill took her sweat shirt again.

"Mother - r - r! There's a squirrel in my bedroom!"

Mother hurried upstairs, a broom in her hand.

"Jack, Bill," she ordered, "go in there and see if you can chase it back out. It must have come through the window that doesn't have a screen. Don't let it out in the hall here."

"Mother - r - r!"

Bill usually moves slowly in the morning, but once Mother had pushed him and the broom inside Jan's room he sure perked up fast. In a flash, he was back outside with us.

"That thing's really huge! It might chase me," he protested.

I was certain that as a squirrel catcher I would be a failure, too.

Bambi was summoned and shoved inside the bedroom. Jan wailed that the dog had climbed on the bed and crept under the spread. Barbara obviously was enjoying the show. She conducted solitary inspection tours, giving us a play-by-play description of the squirrel's progress through the bedroom.

After ten minutes, Jan came bounding out into the hall, like an escapee from some man-hunting expedition. She instructed Bill to return to the bedroom and gather up those items she needed for her job which were her mascara, lipstick, comb, a pair of stockings from the top drawer, her black high-heeled shoes, and a black-checked suit in the closet.

Mother handed me an old blue wool bathrobe.

"Go in there and throw this over the squirrel. He may think he's back inside a tree trunk."

Grasping Barbara by the hand, she marched downstairs mumbling about boys who were begging to take the Driver's Training course but were frightened of a squirrel.

When Mother called the Humane Society they suggested that we try putting a dish of peanut butter on the windowsill. This squirrel must have been an experienced house-breaker, because he didn't fall for that trick. Maybe he was just waiting for French toast.

"Twice Upon a Time"

Many stories begin "Once upon a time," and you must agree that it's a trite first four words. The first four words of a story should be part of the story. That's why my story starts . . .

Twice upon a time within the last year, my brother who works at Mr. S's Hamburger Heaven has not been the most considerate roomate a fellow could have. On school nights he usually worked from 5:00 P.M. to 1:00 A.M., and when he came home at 1:00 he would go into our bedroom and get into his bed. One night he mumbled, sounding like he had just awakened, "Jim, it's time to get up for school." So I got up drowsily. I felt like I had only been asleep for three and a half hours (which I had). He sat up, but I didn't notice the big grin on his face because the light he had turned on almost blinded me. (My mom turns on the light when she wakes us up.) After I was almost dressed my mother opened the door to see what the noise was about. My brother burst into laughter, and I stood there dazed. After my mother's explanation that it wasn't time to get up and my brother's description of how I had looked, when I was getting dressed, I went to bed.

Two days later my brother did the same thing. I was a little suspicious, but I fell for it again.

(Jim Wilson
Grade 6)

Elicit discussion of experiences:

Morning rush (cereal "squabbles," mother had to write note, lost boots, does your mother ever say something like "This is not a restaurant").

Selling lemonade when you were five

Making fudge (did it turn out? eat it anyway?)

Selling (Girl or Boy) Scout Cookies or candy (were you ever stuck with unsold boxes and your mother had to buy them?)

Building a backyard "fort"?

Picnic that didn't turn out as expected (rain, the baby sat on the cake, forgot the charcoal)

Part II

Writing assignment:

Write about an experience, choose a scene you remember. Maybe you were just watching. Ask yourself some questions about the scene. Try to remember the sounds, sights, and smells and the way people talked.

ARRANGEMENT I

Part I

Take a group of Sunday comics. Select those that show obvious sequence. (Those in serial form that are continued from week to week should be excluded.) Cut the frames apart. Clip them together out of sequence with a paper clip. Place clipped sets in separate envelopes.

Before passing out the envelopes, discuss the words, order, arrangement, and sequence. Point out sequence in numbers, days of the week, months of the year, and the seasons. Have children offer sequences of their own.

After adequate discussion, distribute one envelope to each child. Have him unclip the frame set and spread out the pictures. Point out that proper order can be determined in two ways: action in each picture and words (if any) spoken.

Let each child arrange the frames in order which he thinks they should come. Check each one. As each child finishes a set and it is checked for order, have him shuffle the frames out of order again, reclip them, and exchange with another child who has done the same. Have each child do at least three sets. (They usually want to do more.)

Part II

The second part of this lesson involves passing out (one to each child), a large piece of construction paper on which cartoon frames with dialogue balloons cut out can be pasted.

Have each child arrange the frames in order according to action, paste the frames on the construction paper, and supply his own dialogue between characters. If the vacant balloon space is not adequate for the construction paper for any additional words and draw connecting lines to the character speaking.

As a final part of this lesson children can devise their own cartoons on a blank sheet of drawing paper. Selection of characters is free; dialogue is mandatory. Explain that perfect art work is not necessary, but action depicted, dialogue and continuity between frames is important.

ARRANGEMENT II

Ditto a familiar fairy tale. "Cinderella," or "Hansel and Gretel" are suitable for this purpose. Cut up the dittoed sheets into passages of one or two paragraphs each. Distribute a section to each child. Ask the child who has what he believes to be the beginning of the story to read his passage. Then children volunteer in turn when they believe their section should appear. Usually, there is complete success when a familiar story is put into sequence.

A second stage to this lesson is to follow the same preparational procedure with an unknown story.

ARRANGEMENT III

Part I

Review orally lessons involving cartoon arrangement and story paragraph sequence.

Mention sequence in numbers, seasons, days of the week, and months of the year.

Have students offer their own ideas of sequence.

Distribute on dittoed sheets the following explanation and paragraph. This paragraph has mistakes in sentence order. See if you can discover which are out of place as we read it. (Teacher reads paragraph aloud as children follow on their copy.)

> When we left home that summer morning, the sun was shining brightly. At ten o'clock we stopped for a snack at a roadside park. By nine o'clock we were well on our way rushing along the winding turnpike. We ate lunch later than usual because the flat tire caused an unexpected delay. Our grandparents knew we would arrive sometime during the afternoon. About four o'clock we pulled into their driveway. They rushed out to greet us. At last we had reached our destination. As we were passing broad farmlands, the car suddenly began to behave strangely. My father said that we had a flat tire so we had to stop and change to the spare tire.

Have students identify those sentences which are out of order. Begin rewriting the corrected version of the paragraph on the board as they supply the proper order.

Part II

Put the following sentences on the board:

> (Preceding sentence): That night the sight from the plane was fascinating.
>
> (Basic sentence): The city below looked like a piece of jewelry.

(Following sentence): Lights glittered in brilliant colors.

Explain word "preceding," to come before. To demonstrate how each is dependent on the other ask the following questions:

1. If the basic sentence stood alone without the preceding sentence, could the reader tell what the writer meant? Why not?
2. What two things does the preceding sentence tell that are important about the writer?

   (When he was looking--at night, where he was--in a plane.)
3. How does the following sentence help you understand the basic sentence?

   (The lights shining below were what gave the city the appearance of a piece of jewelry.)

After adequate discussion of the sentences, write these three basic sentences on the board:

1. Her eyes shone brilliantly.
2. The dog was panting quickly.
3. He turned away sadly.

As a pre-writing stage, consider each sentence, and discuss possible preceding and following sentences for each.

1. What makes a person's eyes shine brilliantly? (Happiness, excitement)

   What could have made her happy?

   What could have made her excited?

   Can you think of a preceding sentence and a following sentence to go with this basic sentence?

2. Why does a dog pant?
   (Because of hot weather so he can perspire through his tongue; because of running.)

   What kind of day would it be to make him pant? (A hot day)

   What could he have been doing to make him pant? (Running, chasing something)

   Can you think of a preceding sentence and following sentence to go with this basic sentence?

3. What could cause someone to turn away sadly? (Being rejected by friends, something happening to a pet, being told he couldn't do or have something he wanted very much)

   Can you think of a preceding sentence and following sentence to go with this basic sentence?

When the discussion period is over, have students use the following format for their papers:

Preceding sentence--
Basic sentence--Her eyes shone brilliantly.
Following sentence--

Preceding sentence--
Basic sentence--The dog was panting quickly.
Following sentence--

Preceding sentence--
Basic sentence--He turned away sadly.
Following sentence--

Part III

Direct students to write a preceding and following sentence for each basic sentence.

Part IV

As a fourth stage to this lesson, at the next writing session, review all work with sentence sequence. Offer the following as paragraph topics. Have each child choose one on which to write:

1. I still remember the first house I lived in.
2. He was the worst liar I ever met.
3. He constantly did things wrong.
4. Should one ever tell secrets to a friend?

ARRANGEMENT IV

Part I

Review the basics of sequence thus far covered.

Distribute dittoed copies of the following model paragraph:

> Mr. Zuckerman had the best swing in the County. It was a single long piece of heavy rope tied to the beam over the north doorway. At the bottom end of the rope was a fat knot to sit on. It was arranged so that you could swing without being pushed. You climbed a ladder to the hayloft. Then, holding the rope, you stood at the edge and looked down, and were scared and dizzy. Then you straddled the knot, so that it acted as a seat. Then you got up all your nerve, took a deep breath, and jumped. For a second you seemed to be falling to the barn floor far below, but then suddenly the rope would begin to catch you, and you would sail through the barn door going a mile a minute, with the wind whistling in your eyes and ears and hair. Then you would zoom upward into the sky, and look up at the clouds, and the rope would twist and you would twist and turn with the rope. Then you would drop down, down, down out of the sky and come sailing back into the barn almost into the hayloft, then sail out again (not quite so far this time), then in again (not quite so high), then out again, then in again, then out, then in; and then you'd jump off and fall down and let somebody else try it. (E. B. White, Charlotte's Web/ New York: Harper and Brothers, 1952/, pp. 68-69.

Discuss the sequence in this paragraph and the details involved in the directions given. Emphasize the value of a step-by-step description so that a person can fully understand what must be done to complete any process.

Part II

Offer the students the opportunity to write a paragraph that explains how to do something. The subject may be of their own choosing.

If suggestions are necessary, some of the following might be mentioned.

How to make a bed
How to eat soup
How to fix pancakes
How to scramble an egg, etc.

ARRANGEMENT V

This lesson uses student experience as a writing source. Specifically, the lesson questions and models guide the student toward arrangement of details to achieve a particular effect.

Part I

Discussion suggestions.

Question students about frightening experiences, for example:

Bad report card
Tense last inning or quarter of sport
Principal's office
Locked out
Locked in closet
Shadows in bedroom
Imaginary noises at night
Roller coaster and spook house
Swimming too far
Lost in a crowd (or any strange place)
Baby-sitting
Dentist or doctor

Select student and ask, for example:

"How old were you when you were scared that time?
Where were you living? (If this is important)

When did this happen (time of year?)
What sounds or sights made you feel frightened?
How did you feel? Were you shaking? Nervous?
Did your heart beat fast? Tummy ache?"

As responses come, list on overhead.

Part II

Pass the model, "The Spook House":

> One summer day a fair came to town. It was set up at a shopping center. Our family went that night. I decided to go through the spook house and my sister came with me. It was as dark as a black alley. Once in a while you would step on a board and small colored lights would go on for a half second. Then you could see a witch and hear her laughing. It was enough to scare anybody. Soon I turned back and came out the entrance. I couldn't find the exit. I only had one ticket left. I decided I was going in again even if it killed me and I really thought it might. So once again I walked in. Again lights blinked off and on. The witch's laugh was still there. As I walked on I felt myself going through cobwebs. I decided I better get out of there. I walked on and soon I found the exit. Was I happy to see light again!
>
> (Sandy Flack
> Grade 5)

Ask for comments:

"Does Sandy use only her eyes?"
"Does she let us hear something scary?"

Since this is an early lesson in arrangement, the questions should lead the students to notice how the writer had arranged her paragraph.

"Does Sandy, the writer, tell you when she went to the Spook House? Where the Spook House was? Why do you think the reader might want to know these things? Does knowing the details (when and where) help you feel like you are with her? What are some of the details she gives us to make us see how spooky it was?"

Overhead as students respond:

> that night
> dark as a black alley
> small colored lights off and on
> heard a witch laugh
> cobwebs
> get out of there

Additional model for upper grades:

> So he lay still, and stared up into the dark. Everything was dismally still. By and by, out of the stillness, little scarcely perceptible noises began to emphasize themselves. The ticking of the clock began to bring itself into notice. Old beams began to crack mysteriously. The stairs creaked faintly. Evidently spirits were aboard. A measured, muffled snore issued from Aunt Polly's chamber. And now the tiresome chirping of a cricket, that no human ingenuity could locate, began . . . Then the howl of a far-off dog rose on the night air, and was answered by a fainter howl from a remoter distance. (Mark Twain, The Adventures of Tom Sawyer /New York: Pocket Book Inc., 1957/, pp. 74-75.

Part III

Writing assignment:

Tell about a time when you were scared. Include three or four details that will show your reader what made you feel frightened. Arrange the details about when and where it happened at the beginning of your paragraph if it is important for the reader to know this.

Read your paragraph aloud (to yourself) when you have finished.

STYLE I

This lesson will help children to recognize that there are levels of style and also to learn to combine two simple sentences into one sentence.

Part I

Examine a basal reading text (Little White House /Ginn/), reading one or two of the stories. Ask the students:

1. What do you notice about the sentences in the story?
2. What grade do you think the story is for?
3. Why do you think so? (Elicit comments concerning length of sentences and ease of vocabulary).

Examine one or two library books enjoyed by the early elementary students. Read passages aloud.

Sample passages:

(A) All summer when the sunshine came down, he growled at that.

(B) Before Bartholomew could stop him, the captain was leaning out of his window, scooping up some oobleck on the end of his sword. (Dr. Seuss, Bartholomew and the Oobleck /New York: Random House, 1949/, p. 3, p. 27).

1. How do the sentences in the reading text differ from the sentences in the library books? Are they longer?
2. Which sentence tells you more--the "reader" sentence or the library book sentence?
3. Does the longer or the shorter sentence appeal to you?
4. Do you think your stories would be more interesting if you combined some of the short sentences into one sentence?

Part II

Using the overhead and sentences from the Little White House, go through a series of steps similar to the following:

Write: Little Kitten sent to the barn. She looked and looked.

Ask: How can the two sentences be combined?

Little Kitten sent to the barn and she looked and looked.

Ask: How else may the two be combined? Dr. Seuss (or other authors) used words like "when" to help write better sentences. What happens when we put "when" at the beginning?

If you use "when" will the "and" be necessary?

Write: When Little Kitten went to the barn she looked and looked.

Ask: How can you combine the following:

The kittens walked and walked. Then they saw a good big dinner.

STYLE II

This is a lesson in Style to provide the beginning student with some practice in combining simple sentences into one.

Part I

Write the following on the board:

A. The elephant's child left home.
The elephant's child was curious.
The elephant's child searched for a crocodile.

B. The elephant's child left home, searching for a crocodile.

To students:

"Which do you think is more pleasing to read and more pleasing to listen to--A or B? Why?

Does B say the same as A?

What if the sentences in A were combined in this way:

C. The elephant's child left home and he was curious and he searched for a crocodile."

To students:

"What did the writer use to help combine the short sentences into one?

Is C better than B? Why or why not?

Are too many "ands" boring to read?"

Today we're going to work with sentences and see how adding ing onto words will help you not only write a better sentence but also provide your reader with writing that is more pleasing to read. Using ing, of course, is just one way to combine short sentences.

"Look at A, B, and C again. In which example has the writer used ing to describe what the elephant's child was doing when he left home? Did the writer of B need to use "and"?"

Overhead:

D. The elephant's child left home and curiously searching for a crocodile.

Ask someone to read aloud.

To students:

"Does the sentence sound all right?

"Cross out the 'and' in Example D and ask someone to read it aloud.

"Do you feel a tiny pause after the word 'home'?

"When you use ing like the writer of B did, you will want to put a comma before the ing word."

Part II

Writing practice:

Do 1 and 2 together on overhead. Pass 3 - 6 for students to do individually and discuss combinations at end of lesson.

1. Rod slid down the creek bank. He ripped his jeans on a sharp twig.
2. The plane flew higher. It was silver. It looked like an eagle.

To students:

"Where will the word 'silver' go? How can you tell?"

3. After the party the three hamsters strolled home. They gossiped about the squirrel's bad behavior.
4. Two robins were hungry. They sat on a fence. They picked at a crust.
5. Jack raised his hand. He sat in the back row. He hoped the teacher would notice.
6. The pitcher stood on the mound. He waited for the signal. He rubbed the ball against his glove.

To students:

"In the last example might a writer want to use one 'and'?"

STYLE III

While this is specifically a lesson in description, it is primarily concerned with a technique of Style--using language that brings the described person or animal to life for a reader rather than bland, general adjectives.

Part I

Write the following sentences on the board:

My dog is very nice. He is friendly. Everyone likes him.

Suggested questions to students:

"Is this a good description? Why not? Does the writer tell you what he means by 'nice'? (A bulldog is nice--so is a poodle) Friendly to whom? Who is everyone?"

Model to pass:

My Dog Rusty

I wish you could meet my dog, Rusty, a full-grown Irish Setter. We named him Rusty because of his fiery red rusty color. His long, floppy ears tickle me when I get near him. Rusty has a long fuzzy nose, wet black at the end. A lot of hair covers his body, but you can still see how thin and bony he is. He runs sideways, his tongue hanging out. When I come home, he is so glad to see me, he jumps up and gets me dirty, his paws scratching my legs. If he sees a stranger or a passer-by, he barks to get their attention. Could it be he barks because he is lonely when we go into our house? Rusty eats any kind of food we give him. For instance, he once ate some cold oatmeal and five stale pancakes. Even though Rusty is a nut, no other dog could make me as happy as he does.

(Yvonne Campbell
Grade 5)

To students:

"Which is a better description? Why? In the second description, if the writer had simply said, 'Rusty has floppy ears,' would the writing be as good? What does she tell you about Rusty's nose? Have you ever noticed how some dogs run? Do you know what she means by 'sideways'? What are some of the things the second writer tells you that the first writer does not? Is there a difference?"

Part II

Writing assignment:

Write about a pet you have or you used to have or about someone else's animal. If you do not have a pet or know one, describe a younger brother or sister. Will it be enough to tell your reader that your brother (or sister) gets into mischief? Or that he or she is little? Would your reader enjoy it more if you tell what your animal (or brother or sister) does?

STYLE IV

Style has often been defined as the arrangement of words in a manner which both expresses the individuality of the writer and the idea and intent in his mind. With elementary school students, such a definition would be overwhelming. Here we are concerned with only two aspects of style: (1) increasing the maturity of a child's sentence structure and (2) helping students adjust their writing to meet the needs and peculiarities of particular audiences through control of vocabulary, sentence structure and arrangement.

Part I

In the past, writing for many students has been dull or uninteresting. Part of the fault lies with how students have been asked to write. Writing for many has not been an attempt to communicate something to some one; it simply has been a task of writing so many words for the teacher to mark for spelling and punctuation. Even teachers who have been concerned with helping students develop their ideas have failed to present writing as an attempt to communicate something to a specific audience.

Aristotle in his Rhetoric knew better than this. Analyzing an audience holds an important place in Aristotle's text. But it has taken those recent scholars in communication theory to remind us of the importance of knowing to whom you are directing your compositions. We could have, of course, turned to most professional writers and found the same information.

If children are to become interested in their writing, teachers will have to present lessons in terms of communicator (the writer) and communicant (the audience). Writing should be posed as a problem to be solved. How can I express my idea and intent so that I am reasonably certain my audience will grasp both the intent and the idea?

The following steps introduce the concept and present simple ways of considering audience:

(A) Read the following statement to the children and ask them whether or not they agree.

> Frequently when the teacher marks a sentence or a passage in your composition with the notation "unclear" you say, "but you know what I mean," or "but I thought you would understand." When given the opportunity to explain "what you mean" orally, you usually have no trouble in communicating your intent.

(B) Ask the students to consider, for a few minutes, the following paired situations. Which of the two contains the easier task? Why?

A. Give oral directions for getting to your home from school to the boy or girl sitting next to you.

B. Write a paragraph in which you give the directions for getting from school to your home (no maps allowed.)

A. Orally describe your bedroom to the boy or girl sitting next to you.

D. Write a brief description of your bedroom.

Most will agree that example A in each instance is the easier of the two. When you talk to someone you have the opportunity to add more details if a point is confusing or rephrase a statement if the listener appears not to follow. And, usually, the listener is able to ask questions if he does not fully understand. In writing, however, the writer has only the one opportunity; thus he must consider his reader before he begins to write.

Part II

Ask the students to read as much as they can of the following two excerpts:

EXCERPT I

COAL

Coal has been defined as a carbonaceous rock of sedimentary material composed of mummified particles of vegetable matter. Actually, it is not a mineral, like stone or iron ore, because its origins are organic. It was formed from the remains of living things, such as trees, herbs, vines, and shrubs--in short, or the plant life that existed in the Pennsylvanian period some 200 million years ago--and was thereafter compressed, hardened, and completely altered.

There are many varities of coal. Peat, youngest in the coal scale, has a low carbon content and is a low-quality burning material, composed mainly of decayed sedge and reeds. Lignite, second in the scale, has a high moisture content, with up to about

60 percent carbon. Brown in color, it shrinks and crumbles when exposed to the air, and has a low energy level compared with older coals . . . ("Coal," Encyclopedia Americana International Edition, Vol. 7 [New York: Americana Corporation, 1965], p. 143).

EXCERPT II

A ROCK THAT BURNS

Black coal is a rock made from green plants. Millions of years ago strange-looking trees and giant ferns covered most of the land. When these big plants died and fell into swamp mud, they were soon buried by other plants that fell on them.

Over the years the dead plants piled higher and higher and rotted together to make a wet, brown mass called peat. The weight of the water, mud, and sand mashed the layers of peat flat and turned them into coal.

Now miners dig the coal out of the ground so that people can burn it in furnaces to heat their homes and make things in factories. ("A Rock that Burns," Childcraft, Vol. 3 [Chicago: Field Interprises Educational Corporation, 1968] p. 152).

Now ask the following questions:

1. Which example has the longest paragraphs?
2. How many words does the opening sentence in example 1 contain?
3. Do you know the meaning of these words in the first example: carbonaceous, sedimentary, mummified? Are there any words in the second example which you do not immediately know?
4. Which example contains the largest number of words over two syllables?
5. Which example best explains the term peat?

What generalizations are you able to draw from the two excerpts? Obviously the readers of the first excerpt should be more mature readers than those of the second. The whole structure of the second excerpt is simpler than that of the first one. The vocabulary of the second is more limited and the writer is also careful to define terms such as peat when he uses one. The second excerpt contains shorter sentences and paragraphs.

Part III

Have the students study the next two excerpts while asking themselves what assumptions the writer has made about his audience?

EXCERPT III

CATERPILLAR

> "How can a caterpillar get to be a moth?" asked Sue.
>
> "It takes a long time, said Jack. "First the grownup moth lays eggs. The eggs hatch into caterpillars. A little caterpillar eats a lot and gets big. It gets so big, it has to come out of its skin. We say that it is shedding its skin. At last the caterpillar is as big as it can get. Then it stops eating. And it stops splitting and shedding its skin. It spins a cocoon. Inside the cocoon, the caterpillar gets to be a pupa. The pupa will get to be a moth. One day the pupa's skin will split and the moth will come out."
>
> "Will it still be inside the cocoon?" asked Sue.
>
> "Yes," said Jack. "The moth will have to get out of the cocoon. It begins cutting a hole in the end of the cocoon. When the hole is big enough, the moth comes out." ("The Life of a Moth," Basic Goals in Reading 3 /Atlanta: Webster Publishing Company, 1962/, pp. 1-3).

EXCERPT IV

EXPOSITION

> When you begin to read a story, you instinctively look for the answers to four questions: Who are the people? Where are they? Where is the story taking place? What is the basic situation or starting point of the story? It is the writer's task to supply answers to these questions as quickly and naturally as possible. This material is called the exposition of the story. It does not necessarily come in one block at the beginning. Sometimes clues are given through the dialogue, sometimes through the careful use of single sentences here and there or even a single adjective clause. (G. Robert Carlsen, editor, "Exposition" Encounters /St. Louis: McGraw Hill, 1967/, p. 27).

The writer of the third excerpt carefully controls his vocabularly and sentence length. He assumes some familiarity with the terms caterpillar and cocoon although the original article was accompanied with pictures to help those who might be unfamiliar with the terms.

The writer of the fourth excerpt on the other hand, assumes that his readers are familiar with short stories and understand the term dialogue. In addition, he assumes they know something of grammatical terminology--"even a single adjective or clause." However, he does not expect his readers to know one term. What term does the writer carefully define?

A good writer, in considering his audience, asks the following five questions:

1. Have I provided adequate details so that the audience will be able to follow what I have to say? The writer of "The Life of a Moth" has started each basic step involved in the development of a caterpillar into a moth. His young reader will be able to follow the process easily.

2. Is my organization suited to my audience? The organization must be logical enough for the reader to follow; it must make sense to the reader. Younger readers need to see each step, while more knowledgeable readers will be able to follow larger steps in the logic. Note how the writer of "A Rock that Burns" states each small step in the process of plants becoming coal. The author of "Coal" covers the same process for a more mature reader in one sentence.

3. Have I governed the length of my paragraphs to my audience? Young readers are troubled by long paragraphs, while more mature readers are capable of following longer ones.

4. Is my sentence structure suited to the audience? From the four excerpts presented earlier you noted that material written for elementary school children contains shorter sentences than that written for older students

or adults. In addition, the more knowledgeable about the topic the audience is, the more easily they will be able to follow lengthy sentences packed with information.

5. Is my vocabulary acceptable to the audience? In writing for children or uneducated readers, short, common words must be relied upon even though they may not be as accurate as less common ones. But for a more knowledgeable audience the writer uses the most accurate term available. In the fourth excerpt the writer did not hesitate to use such terms as dialogue and exposition. However, when the writer introduced exposition he defined it for his readers.

Part IV

Writing assignment:

1. Read an article in an encyclopedia and then write a paragraph aimed at your classmates. Discuss only those parts of the article which you believe would interest your classmates. Don't attempt to write about everything in the article, choose just one aspect.

2. Read a myth or tall tale and then retell the tale for a group of second-grade children. Your teacher will give you a copy of a second grade textbook so that you can determine how to write for such an audience. Remember, the second graders would appreciate a picture to go along with the story.

COMBINED LESSON

Part I

Discuss briefly five senses--sight, sound, smell, touch, and taste.

1. Read model paragraphs:

> The barn was very large. It was very old. It smelled of hay and it smelled of manure. It smelled of the perspiration of tired horses and the wonderful sweet breath of patient cows. It often

had a sort of peaceful smell--as though nothing bad could happen ever again in the world. It smelled of grain and of harness dressing and of axle grease and of rubber boots and of new rope. And whenever the cat was given a fish-head to eat, the barn would smell of fish. But mostly it smelled of hay, for there was always hay in the great loft up overhead. And there was always hay being pitched down to the cows and the horses and the sheep.

The barn was pleasantly warm in winter when the animals spent most of their time indoors, and it was pleasantly cool in summer when the big doors stood wide open to the breeze. The barn had stalls on the main floor for the work horses, tie-ups on the main floor for the cows, a sheepfold down below for the sheep, a pigpen down below for Wilbur, and it was full of all sorts of things that you find in barns: ladders, grindstones, pitch forks, monkey wrenches, scythes, lawn mowers, snow shovels, ax handles, milk pails, water buckets, empty grain sacks, and rusty rat traps. It was the kind of barn that swallows like to build their nests in. And the whole thing was owned by Fern's uncle, Mr. Homer L. Zuckerman.

In early summer there are plenty of things for a child to eat and drink and suck and chew. Dandelion stems are full of milk, clover heads are loaded with nectar, the Frigidaire is full of ice-cold drinks. Everywhere you look is life; even the little ball of spit on the weed stalk, if you poke it apart, has a green worm inside it. And on the underside of the leaf of the potato vine are the bright orange eggs of the potato bug. (E. B. White, Charlotte's Web /New York: Harper and Brothers, 1952/, pp. 13-14.

Discuss senses developed in each paragraph.

To what sense does this sentence appeal?
What is your reaction?
Can you see what is described?
Can you smell what is described?

2. Arrangement of paragraph

    a. Topic sentence (general introduction)
    b. Specific detail sentences (five senses)
    c. Summarizing final sentence ("And the whole thing was owned by Fern's uncle, Mr. Homer L. Zuckerman.")

Part II

Topic (Baseball)

a. Football stand during a game
b. A fishpond
c. A grazing meadow (pasture)
d. Child's birthday party

e. Streets after a spring rain (or winter snowfall)
f. Lawn covered by frost or fallen leaves
g. Kitchen while a meal is being prepared

Quickly read through list of topics, giving brief suggestions as to how each topic might be developed.

Example: Grazing meadow

Child might be sitting on a fence looking at the meadow, or might come upon the meadow while taking a hike.

Sight:	grass, trees, clover, sheep, cow, horses
Sound:	animals mooing, bleating, neighing or wind rushing through leaves and grass
Smell:	clover fragrance
Taste:	chewing on a bit of clover stem or grass
Touch:	fence might be hard and rough--grass would be soft or prickly

APPENDIX B

HOW TO DO IT ASSIGNMENT

HOW TO DO IT

Hand out two sheets of lined paper to each child.

"You are going to be asked to explain how to do something to someone who doesn't know how to do it. For example you may wish to explain one of the following:

how to make a (cake, pizza, scrambled eggs, etc.)

how to play a game (baseball, basketball, blind man's bluff, etc.)

how to build a (kite, sailboat, model airplane, etc.)

how to earn money

how to care for a (dog, cat, rabbit, turtle, fish, etc.)

Be sure to explain each step well enough so that your reader will be able to follow your directions. Remember, your reader will only have your directions.

"I may not help you. If you do not know how to spell a word, for example, just do the best you can. Spelling will not count against you.

"You have been given two sheets of paper. One sheet may be used for your rough copy. Only your final copy will be turned in. There is more paper on my desk for those who write more than one page.

"You have forty-five minutes to complete your how to do it paper."

(The directions may be repeated.)

APPENDIX C

MODIFIED ETS RATING FORM

MODIFIED ETS RATING FORM

Paper________________ Reader______________ Topic__________________

	Low		Middle		High
Quality and development of ideas	2	4	6	8	10
Organization, relevance, movement	2	4	6	8	10
Style, flavor, individuality	1	2	3	4	5
Wording phrasing	1	2	3	4	5

Sum of Ratings__________________________________

The ETS rating scale modified for the present study provides separate scores related to invention, arrangement and style, in addition to providing a total score for each composition. The readers, experienced elementary teachers, were trained to use this weighted scale.

Definitions of High, Middle, Low

The following definitions of High, Middle, and Low points in the rating scale are based on those listed by Diederich[1] and the definitions used by Anthony L. Tovatt and Ebert L. Miller in the Ball State University Cooperative Research Project No. 5-03892-12-1.[2]

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[1] "How to Measure Growth in Writing Ability" English Journal, 55 (April, 1966), pp. 444-445.

[2] Oral-Aural-Visual Stimuli Approach to Teaching Written Composition to 9th Grade Students, Report to the U. S. Office of Education, Contract No. OE-310-120 (Muncie, Indiana, 1967).

Quality and development of ideas

High. This paper interests me. It says something a bit fresh or original or puts an old thought in a new light. Within the limits of student knowledge and experience, the points are sound; at least, no nonsense is written that the student would know to be absurd if he had only stopped to think. The student has given real thought to the topic; he has not merely echoed what is usually said about it. While the treatment is limited to the points the student wants to make, there are no obvious gaps and there is no padding. Each main point is developed; it is treated at sufficient length to make it clear, convincing, or appealing. The details chosen are usually specific, vivid, and concrete.

Middle. This paper does not interest me. It has familiar and conventional thoughts; it says what is expected; it plays safe. The points made are true enough, but there is often no vivid realization of what they mean. There is often a tendency to generality and loftiness in statement. The writer does not stick to what he knows but writes what he thinks will "sound good." The development of ideas tends to be sketchy and superficial.

Low. This paper annoys or disgusts me; I definitely dislike it. Its ideas are painfully childish or primitive. Many of the statements are nonsense; the student would have recognized his absurdity if he had only stopped to think. Some points are treated at unnecessary length while others, which cry aloud for treatment, are omitted. There is little development of ideas; sometimes it is hard to guess what they are. The arguments, if any, frequently do not support the point they are intended to make and contain inconsistencies and fallacies. In a narrative, many of the details seem pointless. The writer naively reveals traits of thought and feeling which guarantee that his ideas are of little value.

Organization, relevance, movement

High. The paper starts at a good point, moves in a straight line, gets somewhere, and stops at a good point. There is nothing that obviously does not belong in it, and nothing essential to the writer's purpose is left out. The paper follows a plan that is apparent to the discerning reader. The topic is broken up into reasonable parts, and the connection of one part with another is clear. There is a feeling of movement toward a foreseen conclusion. One is never at a loss as to where one is going. This feeling of movement lies closer to the heart of organization than conformity to a logical outline.

Middle. The organization tends to be obvious and conventional: "I shall discuss A, B, and C. First, A. Second, B. Third, C. Conclusion." In a narrative: "It all started when . . . Then we . . . Then we . . . Then we came home." The bare bones of the outline are too plainly exposed.

Low. The paper seems to have no plan; it merely rambles. It starts anywhere and never gets anywhere. There is usually some attempt at an ending but it is not natural and inevitable; it is stuck on. At many points one asks, "Where is this heading?" Any guess one makes is usually disappointing.

Style, flavor, individuality

High. The writer reveals traits of thought and feeling that are distinctive, individual, and in some way admirable. He may be a rascal, but if so, he is an appealing rascal. He does not put on airs. He is willing to reveal himself as he is, confident that the reader will understand and be interested. He puts himself into his writing. It sounds like a person, not a committee.

Middle. The writer who most obviously belongs in the middle category is the cliche expert--the one whose choice of words is predictable. One may also put here the student who over-does his experiments with uncommon words--who uses too many of them when simpler words would serve his purposes better. If this were not a promising trait, it could fail a paper, but it is so natural at this stage of development that it should be treated tolerantly. One may correct a malpropism but perferably with the attitude, "Nice try!"

Low. The writer uses words carelessly and inexactly and gets far too many of them wrong. These are not conscious experiments with words in which failure may be pardoned; they represent groping for words and using them without regard to their fitness. A paper written entirely in a childish vocabulary may also get a low rating, even if no word is demonstrably wrong.

APPENDIX D

SCHEFFÉ TEST FOR POST-HOC COMPARISONS

SCHEFFÉ TEST FOR POST-HOC COMPARISONS

The hypothesis of the Scheffé test for post-hoc comparisons is that mean one minus mean two is equal to zero:

$$H_0 = 0 \quad \text{or} \quad \bar{X}_1 - \bar{X}_2 = 0$$

To determine whether the mean gain on the total rating score of the third grade (8.33) is equal to the mean gain of the fourth grade (6.10) the following formula is used:

$$S_{\bar{X}_1 - \bar{X}_2} = \sqrt{S_w^2 \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}$$

where: S_w^2 = the within mean square error

n_1 = no. observations in class 1

n_2 = no. observations in class 2

thus:

$$S_{\bar{X}_1 - \bar{X}_2} = \sqrt{S_w^2 \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}$$

$$= \sqrt{8.44 \left(\frac{1}{40} + \frac{1}{40}\right)}$$

$$= 0.66$$

The quantity ($\underline{F}$) is computed by the following formula:

$$(\underline{F}) = \sqrt{(\underline{df}\text{ between})\ \underline{F}\ .05}$$

$$= \sqrt{3 \cdot 2.66}$$

$$= 2.82$$

The product giving the value of minimum significance is found by the following formula:

$$\text{Value of minimum significance} = (\underline{F})\,(S_{\bar{X}_1} - \bar{X}_2)$$

$$= 2.82 \times 0.66$$

$$= 1.85$$

Now, if the absolute value of the difference $(\bar{X}_1 - \bar{X}_2)$ is as large as, or larger than, 1.85, then a significant difference exists between these two means.

Grade 3 $\bar{X} = 8.33$

Grade 4 $\bar{X} = 6.10$

Difference = 2.23

Since the absolute value of the difference is larger than 1.85, a significant difference exists.

The formula for the Scheffé test was first programmed on an Olivetti Underwood Programma 101 desk top computer and all Scheffé tests were performed on the 101.

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VITA

The writer of this study was born in Minot, North Dakota on October 9, 1928. He graduated from Nashua High School, Nashua, Montana in 1946. He worked in the field of highway engineering for several years, eventually becoming a supervising construction engineer for the Alaska Road Commission.

He attended the University of Alaska, the University of Montana, and the University of Washington. He received the Bachelor of Arts degree with a major in English from the latter in 1958. In 1964 he entered the Florida State University and was granted the Master of Arts degree with a major in English Education, December, 1965. At the Florida State University he held the position of research assistant in the Project English Curriculum Center.

The writer's teaching career included teaching English in both junior and senior high school classrooms. He served as a high school English Department Chairman and as a district English Coordinator.

Currently, the writer is employed as Director of English for Oakland Schools, an Intermediate District of School Administration.

In addition to membership in several professional organizations, he serves on two committees of the National Council of Teachers of English. He is also member of Phi Delta Kappa, the national educational fraternity. The writer has published in the _English Journal_ and in the _Journal of Communications_.